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DUBLIN JOURNAL
OF
MEDICAL SCIENCE

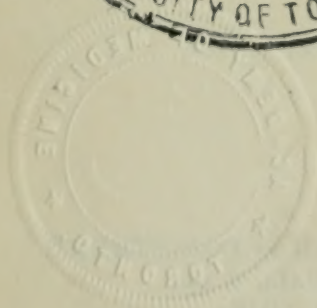
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VOL. CXXV.
JANUARY TO JUNE, 1908.

DUBLIN:
FANNIN & COMPANY, LTD., GRAFTON-STREET.
LONDON: SIMPKIN, MARSHALL & CO.
EDINBURGH: JAMES THIN.
PARIS: HACHETTE & CO.

1908.

DUBLIN : PRINTED BY JOHN FALCONER, 53 UPPER SACKVILLE-STREET.



THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JANUARY 1, 1908.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*A Plea for the Non-Operative Treatment of Diseases of Women.* By ALFRED DE ROULET, B.S., M.D.; Instructor in Physiology and in Diseases of Women in the Chicago College of Medicine and Surgery (Medical Department of Valparaiso University), Chicago.

AFTER reviewing a number of the more recent text-books and looking over the current literature on the subject, as well as listening to papers and discussions in our various medical societies, we might infer, from the amount of time and attention devoted to the surgical treatment of diseases of women, that medical measures had no place in the practice of an up-to-date gynæcologist. In fact some of our distinguished operators declare that medical gynæcology is but a figment of the imagination, and that any line of treatment other than operative is but the merest tinkering. It is hardly necessary to add that such men merely advertise their own ignorance of the resources of modern therapeutics.

Without attempting to under-rate the importance of surgery in properly selected cases, I am convinced that the field of medical gynæcology is not only a large one, but also one well worth cultivating.

In gynæcology, as in every other department of medicine, there are conditions which are only amenable to operation, but because brilliant results have been attained in this rather limited class of cases it is scarcely reasonable to insist that operation is the only, or even the best, treatment for all diseases of women. At best an operation is but the less of two evils—never an unmixed blessing. In any given case, after the patient's condition has been considered in its broadest aspect, medical as well as surgical, if an operation does not seem to be the only treatment compatible with the patient's best interests, it is not only not to be advised, but it is positively to be advised against. There can be no question as to the necessity for operation in the treatment of malignant tumours and certain inflammatory conditions, but in the case of uterine displacements and the various chronic inflammations and congestions of the pelvic organs, the need for operation is decidedly questionable.

A few years ago our greatest surgeons and gynæcologists operated for uterine fibroids on every possible occasion, and our medical journals were filled with reports of "One Hundred Ventral Fixations," "Two Hundred Ventral Suspensions," "Three Hundred Alexander Operations," or "Five Hundred Successful Operations for Retro-displacements of the Uterus." Now the value of the operation is questioned even by the surgeons. Probably one-third of all uterine displacements are unaccompanied by symptoms of any kind, and when unpleasant symptoms are present operative measures cannot be depended upon to afford relief. Time and time again has the uterus been suspended or the round ligaments shortened, and when the patient recovered from the operation she had just as much back-ache, and suffered just as acutely as before. The condition has, undoubtedly, been cured anatomically, but the anatomical cure of a condition which neither endangers, nor is likely to endanger, life is of very little value when the functional disturbances are not relieved.

To accomplish anything in medical gynæcology it is essential that the gynæcologist should have a clear conception not only of the condition confronting him but of what he

intends to accomplish and the means by which he intends to do it. Each case must be studied individually, and the patient as well as the disease must be considered. Routine work has no place in medical gynæcology, and the gynæcologist who "guesses the patient has a little catarrh of the womb," and "guesses that maybe a little iodine will fix it up all right," has certainly mistaken his calling. The same may be said of the man whose therapeutic resources are limited to the ready-made uterine tonics and sedatives, the viburnum compounds, the uterine wafers, and the vaginal suppositories of the manufacturing chemist.

Many gynæcological affections are not amenable to local treatment alone, and constitutional treatment alone is often but little more effective, but by a judicious combination of the two much may be accomplished. As most gynæcological patients are anæmic, constipated, and nervous, particular attention should be paid to their diet. They should be encouraged to eat freely of all kinds of nourishing food, particularly meat, as beef, mutton, and poultry, eggs, oatmeal, whole wheat, and corn bread, fresh vegetables, and fresh fruit. The various patent breakfast foods and cereal coffees have not sufficient food value to pay for the trouble of eating them. Milk may be used freely, especially between meals and at bedtime. Condiments, as the various spices, are beneficial when used in moderation, as they stimulate digestion and absorption. Sweets and pastries should be avoided. Many patients will object to this diet on the ground that they have no appetite. In such cases continue the diet and let the appetite take care of itself. Few American women take sufficient quantities of proper food, although many eat an excess of food which is neither digestible nor nourishing.

Tonics are usually indicated, especially iron, arsenic, strychnin, phosphorus and hydrastis. Laxatives are frequently necessary, and for this purpose a reliable cascara preparation is probably the most satisfactory.

Hydrotherapy in gynæcology is practically unknown outside a few sanatoriums and hydropathic institutes, yet in many

cases it may be employed with excellent results. The successful application of hydrotherapy depends upon a thorough knowledge of the effects of heat and cold on the body, as well as on strict attention to the correct technique of the treatment.

The *hot vaginal douche* is probably the most frequently employed of the hydiatic measures, and when properly applied is undoubtedly one of the most valuable therapeutic agents which we possess for the relief of pelvic pain, the control of inflammation, or the absorption of inflammatory exudates. When improperly used, as it generally is when employed by the patient herself, it is practically worthless. The injection of small or moderate quantities of tepid water into the vagina may have some slight cleansing effect, but that is all. It certainly does not affect in the slightest degree an inflammatory process.

The douche is undoubtedly most effective when administered with the patient lying down, with the hips slightly elevated, though the sitting posture is permissible if other conditions are carried out. The essential point is the prolonged application of a large quantity of hot water to the entire vaginal surface. The water should be used at a temperature of from 105° F. to 120° F., and should be in contact with the tissues from twenty to thirty minutes, consequently several gallons of water may be necessary. The douche is best administered with a fountain syringe at an elevation of from two to four feet above the patient. The soft rubber tube, having been sterilised and lubricated, is introduced well into the vagina. The hard rubber tips present no advantage over the tubing itself, and are much harder to keep clean, while with the tips there is always the possibility that some of the fluid may be introduced into the uterine cavity and set up a very unpleasant uterine colic.

As the object of the douche is to combat inflammation and stimulate absorption of inflammatory exudates, plain hot water is best, though in some cases common salt, borax or boric acid may be added with advantage. If for any reason an antiseptic solution is desired, a $\frac{1}{200}$ solution of lysol is safe, efficient and free from unpleasant features.

Hot rectal injections may be used for practically the same purposes as the hot vaginal douche, but on account of the additional effect on the bowel itself its employment for any prolonged period of time is not advisable.

The hot water introduced into the rectum is brought into closer contact with the uterus and appendages than is possible in any other way. The injections are made twice or three times each day, the water being used at a temperature of 110° F., and retained as long as possible. In addition to its effect on the inflammatory conditions, the hot rectal injections are also valuable in rendering the lower bowel comparatively aseptic, and relieving the constipation to which a majority of women are subject.

Colonic lavage.—Inasmuch as I am inclined to consider chronic constipation an important factor in the causation of pelvic congestions, I place a rather high estimate on the value of colonic lavage. According to our present knowledge the colon contains, in addition to considerable quantities of the waste products of digestion, enormous quantities of putrefactive bacteria, which produce certain toxins, which are taken up by the circulation. In early life, when the patient's powers of resistance are at their height, the effects of this toxæmia are slight, being limited to an occasional sick headache, but with advancing years there is a progressively decreasing resistance, and the symptoms of a chronic copræmia become more pronounced.

While the effects of the lavage on the pelvic circulation are even more marked than those of the hot rectal injections, the object of the colonic lavage is primarily to flush out the entire colon, removing mechanically the entire accumulation of putrefactive material, and as the greatest accumulation of putrefactive bacteria is found in the head of the colon, unless this portion of the bowel is reached, satisfactory results cannot be attained.

The correct technique is the simplest. A common two-quart douche bag, fitted with the ordinary rubber tubing, and a small hard rubber tip is all the apparatus necessary, and in practice will be found much more satisfactory than

the soft rubber high enema tubes or the more complicated apparatus devised for that purpose. The douche bag is filled with hot saline solution (110° F.), and the patient is placed in the knee chest position. In this position the rectum is higher than the colon, and the solution gravitates through the sigmoid flexure into the descending and the transverse colon. As the rectum begins to distend there is a strong desire to expel its contents, but this impulse being resisted, in a moment or two a slight gurgling is heard, and the solution flows into the colon. When the bag is empty the rectal tip is withdrawn, and the patient turns on her right side to allow the solution to flow into the ascending colon, after which the bowel may be evacuated.

The *hot sitz bath* is used principally for the relief of pelvic pain, and is of great value in restoring the menstrual function in cases of acute suppression, especially when due to exposure to cold or dampness. In giving this bath the patient should be placed in a tub with the water at a temperature of 100° F., after which hot water is added until a maximal temperature of 110° to 115° F. is reached, the patient remaining in the bath from fifteen to twenty minutes. Where the bath is employed for the relief of acute visceral congestions, care must be taken to prevent the sudden cooling of the body surface, as the sudden general contraction of the superficial vessels would simply aggravate the congestion and destroy any good effects of the bath.

Exercise, especially the military setting up exercises, will often prove a useful adjunct in the treatment of certain pelvic troubles. In early womanhood the abdominal muscles are generally fairly well developed, and the abdominal walls firm and elastic; with advancing years the muscles become atrophied from disuse or weakened and relaxed from over-distension, the abdomen becomes pendulous, the abdominal and pelvic organs, no longer receiving their proper support, become more or less displaced or distorted, and marked circulatory disturbances soon follow. In my opinion the evil effects popularly attributed to tight lacing are due, not to the compression of the abdominal and pelvic contents,

but to the enforced disuse and consequent weakening of the abdominal muscles.

Local treatment.—The value of local treatment is often underestimated, but, even in cases where an operation would seem to be indicated, much may be done by systematic local treatment, not only to give the patient relief sufficient to enable her to continue her ordinary duties without discomfort, but even to bring about permanent cure. Under the head of local treatment, the various topical applications, pessaries, pelvic massage, and electricity may be considered.

Vaginal tampons are used as carriers of medicines, as mechanical supports for the uterus and for control of hæmorrhage. As carriers of medicinal substances, the best tampons consist of a roll of sterilised lamb's wool, one inch in diameter and about three inches long, bound about the middle with a narrow tape, one end of which is left about six inches long. This tampon is saturated with the desired drug and introduced into the posterior vaginal fornix. Various remedies may be employed, but I have found pure glycerine, boroglyceride and ichthyol the most generally useful. All relieve pain and congestion to a greater or less extent. Where a local astringent is desired, the tampon may be saturated with the fluid extract of hydrastis or the distilled extract of witch hazel.

When used as a mechanical support the tampons should be introduced dry in such a manner as to form a column in the vagina. In such cases it is advisable to dust the tampons with some mildly antiseptic powder, as boric acid or stearate of zinc and acetanilide before introduction into the vagina. Tampons may be used in this manner in the gradual correction of retrodisplacements and for the support of a prolapsed uterus.

The *pessary* is a very useful but much-abused appliance in the treatment of uterine displacements. As a matter of course, the ones who have been most flagrant in their abuse of the pessary are the ones whose voices are loudest in its condemnation. A pessary is of no use whatever in replacing a displaced uterus, but after the displacement has been

corrected the pessary is of the greatest value in retaining or supporting the uterus in its proper position. In fact the function of a pessary in the treatment of uterine displacements is exactly the same as the function of a splint in the treatment of a fracture. In cases of mobile, backward and downward displacements where there is a comparatively good pelvic floor capable of retaining it, a pessary of the Hodge or Smith type may be depended upon to give very satisfactory results. It is essential, however, that the pessary should be perfectly adjusted to the patient who is going to use it. In fact the gynecologist should use the same care in fitting a pessary that a dentist uses in fitting a set of artificial teeth. An imperfectly adjusted pessary simply adds to a patient's discomfort without benefiting her in the slightest degree. In improperly selected cases, as of retro-displacements, where the uterus is bound down by dense adhesions, or where there is acute inflammatory disease of the uterine adnexa, the use of the pessary not only cannot possibly benefit the patient, but it may prove a source of considerable danger. In the class of cases, however, where the pessary is indicated, its proper employment should afford the patient decided relief.

Pelvic massage, as a rule, receives but scant attention in America, yet it is a therapeutic resource of great value, and in many of the European clinics is prescribed as a routine measure in many forms of chronic pelvic disease. The theory is simple and the practice effective. Chronic inflammations are benefited, congestions relieved, adhesions broken up, and exudates absorbed as a result of its employment. Uterine displacements are corrected, and prolapsed tubes and ovaries, if not actually restored to their normal positions, are at least rendered less sensitive. The principal contraindications are acute inflammation and malignant new growths. It is needless to say that no one who has not a thorough knowledge of pelvic diagnosis should attempt to give pelvic massage.

Electricity in gynecology is apparently of much greater value for the relief of symptoms, particularly pain, than it is

for the cure of disease, but with intelligent perseverance many diseases may be entirely cured. For the relief of pelvic pain the fine faradic coil is especially useful. One electrode is introduced into the vagina or uterus, the other is placed on the abdomen immediately over the fundus of the uterus, or, for intra-uterine applications, both poles may be advantageously combined in a bi-polar electrode, as with the bi-polar method much stronger currents may be used, as the sensitive skin is not included in the circuit, and the treatment is much less painful to the patient. As the induced current is an alternating current, there is no difference in the therapeutic effect of the two poles.

The patient should be treated every second or third day, each sitting lasting from fifteen to thirty minutes. The electrode should be introduced into the uterus, and the current turned on gradually until the full strength is reached, and at the conclusion of the treatment it should be turned off in the same manner before withdrawal. This treatment has a very good effect in controlling pain due to ovarian neuralgia, abdominal pains in neurotic women, as well as pain depending upon pelvic inflammations.

With the various methods and means of both local and constitutional treatment at our command, it is evident that a large proportion of pelvic disorders should be cured without recourse to surgery. Few physicians would recommend an operation on a member of his own family for a condition which could be relieved in a comparatively short time by non-operative measures. Why then should not these same physicians give their patients the benefit of the same general treatment before resorting to operation ?

ART. II.—*Diphtheritic Fever.*^a By SIR JOHN MOORE, M.D., D.P.H., M.A. Dubl.; D.Sc. Oxon.; F.R.C.P.I.; Physician to the Meath Hospital and Professor of Medicine, Royal College of Surgeons in Ireland.

ON Friday, May 24, 1907, I made a preliminary oral communication to the First General Meeting of the Association of Physicians of Great Britain and Ireland, held in London, on a remarkable outbreak of sore throat which had come under my observation in a large girls' school in Dublin during the previous autumn. Bacteriological examination proved the outbreak to be due to an infection with a form of the Klebs-Löffler *Bacillus diphtheriæ*. The resulting illness failed to present the typical features of classical diphtheria—it might be described as "Diphtheroid," and I have ventured to call it "Diphtheritic Fever."

An interesting discussion followed my statement, and there was a consensus of opinion that the Klebs-Löffler bacillus not infrequently produced a masked or larval form of diphtheritic sore throat which might be overlooked owing to the failure of the classical symptoms of the disease to appear. Several speakers in the discussion laid stress on the necessity for a bacteriological examination in cases of even mild sore throat with a view to accurate diagnosis. The persistence of the infection of diphtheria even in these mild cases was emphasised by successive speakers, and this point was illustrated in a striking manner in two instances connected with the outbreak I shall now describe.

The boarding school, in which the epidemic broke out, is situated in a healthy part of the city, and much trouble and expense have been incurred in putting the main building and adjoining dormitories into a sound and sanitary condition. The girls, numbering forty-three, returned to the school

^a Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, December 6, 1907. [For the discussion on this Paper see p. 54.]

premises towards the end of August, 1906, and the health of the inmates remained good until the beginning of October. On the 27th of the latter-named month I wrote the following Report for the information of the School Committee. :—

“REPORT ON AN EPIDEMIC SORE THROAT.

“October 27, 1906.

“I have to report the prevalence of a very suspicious epidemic sore throat in the school. The first case occurred in the person of Marion K. on October 2nd. She had visited friends at Bray on September 19th, and next day complained of sickness, and her digestion was completely out of order. From October 2nd she remained feverish for some four days, and her tonsils were inflamed and enlarged. She was isolated as a case of epidemic tonsillitis. On Wednesday, the 10th, Florence L., aged fourteen and a half years, had a slight sore throat and headache ; temperature 101° ; I did not see her.

“On the 19th two similar cases developed. These were followed by five more cases on the 21st, two cases on the 22nd, one on the 24th, one on the 25th, and one on the 26th—that is, fourteen attacks in all up to the present date (Saturday, October 27th).

“In the several cases the symptoms were :—Cold in the head, heavy breath, inflammation and enlargement of the tonsils, coated tongue, glandular swelling in the neck, and rash on the roof of the mouth. In no case was there any extensive exudation or false membrane, as in pronounced diphtheria. On Wednesday, October 24th, I deemed it necessary to have a bacteriological examination. Accordingly, Dr. William Boxwell, clinical Assistant and Assistant Pathologist of the Meath Hospital, visited the patients with me and took ‘swabs’ from the tonsils in three cases. Dr. Boxwell reports to me to-day that cultures made in the Laboratory reveal the presence of an attenuated form of the *Bacillus diphtheriæ*. His opinion is confirmed by Professor A. H. White, of the Royal College of Surgeons in Ireland.

“It is, therefore, all but certain that the attacks of illness in the several cases are of mild diphtheria, or ‘diphtheroid.’

Accordingly, this afternoon I supplemented the disinfecting and tonic treatment, on which all the patients have been since the first, by injections of 2,000 to 4,000 units of anti-diphtheritic serum (antitoxin). Dr. Boxwell kindly assisted me in giving the injections.

“JOHN W. MOORE, M.D.”

The following was Dr. Boxwell's Report :—

“ Meath Hospital and County Dublin Infirmary.

“ Pathological Laboratory, October 26, 1906.

“ At the request of Sir John Moore, M.D., I made a bacteriological examination into the cause of an outbreak of a throat affection among the inmates of the ——— School, Dublin. The infecting organism was found in every case examined to be a form of the *Bacillus diphtheriæ*, and it was recovered from the most recent case almost in pure culture.

“ WILLIAM BOXWELL.

“ Assistant Pathologist to the Meath Hospital.”

From October 2, 1906, to November 11th, following, eighteen out of a total of forty-three girls in the school were attacked—that is, 41.9 per cent. There were five distinct outbreaks. In the first, one girl sickened on October 2nd; in the second, one girl sickened on October 10th; in the third, nine girls sickened, two on October 19th, two on October 21st, two on the 22nd, two on the 23rd, and one on the 24th; in the fourth, five girls were attacked, one on October 28th, two on October 29th, one on November 1st, and one on November 2nd; in the fifth, three girls were seized, one on November 7th (for the second time), one on November 8th, and one on November 11th. After this last date no further cases occurred.

The notes of the several cases have been thrown into the form of a Table as under :—

TABLE I.—*First Outbreak, October-November, 1906.*

Name	Age	Date of Invasion	Maximum Temp.	Duration of Fever	Additional Symptoms
1 Marion K.	11	Oct. 2	101°	4 days	Enlarged and inflamed tonsils; much discharge of mucus from nose and mouth; heavy breath; cold in head; sore nose, with tendency to herpes: coated tongue, which desquamated; [no rash noticed]; swelling on each side of neck.
2 Florence L.	14½	Oct. 10	—	2 days	Inflamed throat. headache, and temperature 101°.
3 Eveleen C.	12	Oct. 19	100.8°	5 days	Cold in the head and sore nose; slight rash on face and chest; much mucus discharge from the nose and throat; extreme pallor.
4 Marjorie B.	14	Oct. 19	100.6°	5 days	Cold in the head; much headache; much discharge; faint rash about a week after the throat started.
5 Winifred J.	15	Oct. 21	102.8°	7 days	Severe cold in the head and sore nose; rash on chest; herpes on face; much mucus discharge; temperature in morning almost normal; at night 100° or 101°. On Oct. 27th slight pain in the right side.

TABLE I.—*Continued.*

Name	Age	Date of Invasion	Maximum Temp.	Duration of Fever	Additional Symptoms
6 Emma H.	13	Oct. 21	99.0°	11 days	Heavy cold in the head; sore nose; rash on chest about five days after start.
7 (Arabella C.	12	Oct. 21	Normal	—	Slight cold in the head.
(Arabella C.	12	Nov. 7	101.0°	5 days	Seventeen days after the first attack a rash came on her chest, &c., accompanied by fever; but there were no throat symptoms.
8 Annie M.	14	Oct. 22	101.4°	5 days	Slight cold in the head; rash on chest at beginning of disease; severe headache for the first twenty-four hours.
9 Marjorie J.	13	Oct. 22	101.2°	5 days	Cold in the head; rash on chest about three days after start; after three weeks peeling of the hands started.
10 Fannie C.	14	Oct. 23	Sub-normal or normal		Cold in the head; slight rash at the beginning.
11 Ruby M.	10	Oct. 24	99.8°	2 days	Slight cold in the head; rash at the beginning; after three weeks peeling of the hands.
12 Bessie F.	16	Oct. 28	102.0°	Temp. still up on Oct. 31	Slight cold in the head and rash; false membrane on throat.

TABLE I.—*Continued.*

Name	Age	Date of Invasion	Maximum Temp.	Duration of Fever	Additional Symptoms
13 Elsie D.	17	Oct. 29	100.0°	3 days	Slight cold in head; loss of voice, showing that the larynx and the vocal cords were affected; headache; faint rash on chest after about five days.
14 Gracie R.	15	Oct. 29	101.1°	4 days	Slight cold in the head; rash on chest after about six days.
15 Muriel T.	17	Nov. 1	101.1°	7 days	Slight cold in the head.
16 Beatrice A.	16	Nov. 2	102.4°	5 days	Slight cold in the head; false membrane on the throat.
17 Eileen G.	15	Nov. 8	101.1°	4 days	Slight cold in the head and headache; when recovering, swellings and pains of the joints were present.
18 Florence O.	16	Nov. 11	102.0°	3	A very mild attack.

Only in one case was there slight albuminuria.

Allusion should be made to two instructive sequels to this epidemic.

The first is the fact that diphtheria was carried home to the country in two instances by the girls when, nearly two months after their illness, the school broke up for the Christmas holidays.

The second is the fact that nearly twelve months afterwards a little epidemic of a precisely similar nature occurred in the school. On September 30, 1907, I was sent for to see three

cases of sore throat in the school, and found the patients moderately feverish, with swollen tonsils, enlarged cervical glands, but little or no exudation. Without a moment's delay swabs were taken and submitted to Dr. Boxwell for bacteriological examination, and—not waiting for his report—I there and then injected a medium dose of antitoxin (2,000 units, Behring) in each case. The result of the bacteriological examination made on Tuesday, October 1st, was to find the milder form of the diphtheria bacillus present in considerable quantities in two of the three cases. In the third case—clinically the most severe—Dr. Boxwell failed to find it.

The patients all did well, but on October 15th I had a further report from Dr. Boxwell to this effect :—

“The results of the swabs you asked me to make are as follow :—

“Case No. 1.—No growth. Case No. 2.—Cocci only. Case No. 3.—Klebs-Löffler still pretty plentiful.”

Cases 1 and 2 were permitted to return to their studies, but Case 3 was kept isolated until Monday, November 4th, after Dr. Boxwell had reported that he had made another—the third—culture from a swab of the patient's throat, and that on this occasion the most careful examination had failed to show diphtheria bacilli.

The facts relating to these three cases are embodied in Table II.

TABLE II.—*Second Slight Outbreak during October, 1907.*

Name	Age	Date of Invasion	Maximum Temp.	Duration of Fever	Additional Symptoms
1 Violet H.	14	Sept. 30	Normal	—	Partial loss of voice, succeeded by cough.
2 Eileen K.	13	Sept. 30	Normal	—	The infection remained for over a month; the soreness of throat was followed by a cough.
3 Lucy E.	13	Sept. 30	101.4°	3 days	Inflammation of the throat was more pronounced, and was accompanied by a troublesome cough.

NOTE.—1. All patients were recent residents in Dublin.

2. No appreciable cold in the head was present in any of the three; no rash on the roof of the mouth or over the chest was present.

While the earlier epidemic was in progress—in October, 1906—I told Dr. Richard Hayes, Physician to Steevens' Hospital, of the outbreak. He informed me that he was familiar with similar cases in the practice of that hospital, and that he had recently observed an epidemic tendency of the kind. That there was such a tendency in Dublin at the time would appear from the following:—

On Saturday, November 3, 1906, I was called to see the Lady Superintendent of St. Patrick's Nurses' Home, St. Stephen's Green, Dublin. She gave me this history of her illness:—

On October 28th she was attacked with a cold in the head and slight sore throat. On the 30th these symptoms continued, with loss of voice. She felt feverish, but her temperature was not taken. On the morning of November 3rd the patient awoke with violent pain in her right shoulder, the back of her neck and behind the right ear.

Regarding the attack as neuralgic or rheumatic prescribed cachets containing in each 10 grains of aspirin and one grain of caffein—one cachet to be swallowed with water thrice daily. She was also ordered to take a soothing draught of 5 grains of phenazone and 5 minims of tincture of gelsemium in chloroform water as required.

On November 8th the pain in the neck was better. From the 5th she had been taking "anticatarrhal pills," composed as follows :—

R. Quininæ Sulphatis, gr. 18;
 Liquoris Arsenicalis, min. xii;
 Liquoris Atropinæ Sulphatis, *minimum*;
 Pulveris Acaciæ, grana 20;
 Extracti Gentianæ, q.s.

ut fiant pilulæ xii.

Signa: One twice or thrice daily after food.

On November 10th the note was that pains in the thighs and back were felt every night, though they disappeared during the daytime. On this day the patient left town for change of air.

On November 15th, signs of right facial paralysis showed themselves, and when I visited the patient next day the clinical picture of "Bell's palsy" was complete.

November 20.—Facial paralysis still marked. Pains in the thighs continue. Slight paralysis in the fingers and commencing wasting of the balls of the thumbs.

December 10.—Facial palsy and pains in the thighs are much less, but the patient experiences a difficulty in writing or sewing. She left for her home in England shortly before Christmas, but was good enough to send me the sub-joined notes of the subsequent progress of what was clearly a case of toxic peripheral neuritis.

December 28.—Signs of paralysis in the legs, with pains in the calves and loss of feeling in the feet.

January 9, 1907.—Discovered wasting of the calves of the legs and of the balls of the thumbs. Absence of knee-jerks.

March 12.—Since January there has been a gradual improvement. The hands have completely recovered. The

facial palsy also has almost disappeared, save for a slight paralysis on the right side of the mouth. The muscles of the arms and legs are developing to their normal size, but the toes are still partially paralysed.

Under date September 5, 1907, this lady wrote to me as follows :—

“ I was very careful to carry out your instructions, and spent July in London *resting hard*. I used to sit in Regent's Park for whole afternoons, and was very careful to drive rather than walk whenever I could. By the last week in July I was quite able to enjoy a little walking, and—after consulting my sister's medical man—a good swim every morning. I went down to Folkestone for four weeks, and rapidly got quite well. It is perfectly splendid to be able to walk about in the old way and to work properly without any hindrance. . . . There is a ‘ Sugar Loaf Hill ’ at Folkestone, which I climbed several times, but it is only 600 feet above the sea level.”

Can there be any doubt from the foregoing history that this case was one of toxic peripheral neuritis ? The onset of the lady's illness corresponds closely with that of the cases which I have ventured to describe under the name of diphtheritic fever. I regret that in the absence of a bacteriological examination such a diagnosis cannot be confirmed ; but the features of the peripheral neuritis were the exact counterpart of those observed by me many years ago in a case of undoubted diphtheria.

It has been mentioned above that in the second (1907) epidemic, Dr. Boxwell failed to find the diphtheria bacillus in the case of the patient whose attack was clinically the most severe. This puzzled both him and me. But in a thoughtful and suggestive paper by Dr. J. Marshall Day, the Medical Superintendent of Cork Street Fever Hospital, published in the “ Dublin Journal of Medical Science ” for October, 1907 (Vol. cxxiv., p. 254), I find a valid explanation. Having adopted a systematic bacteriological examination of the throat in scarlatina for the diphtheria bacillus he found that in cases in which a severe ulcerated throat was present, the report

was often negative—the streptococci and staphylococci were so numerous that they crowded out, as it were, the Klebs-Löffler bacilli—a fact well known in true diphtheria.

In conclusion may I recall the symptoms which by their more or less constant presence make up the clinical syndrome of diphtheritic fever. They are :—

1. A more or less severe coryza.
2. A moderate tonsillitis, usually one-sided, and unattended by high fever or by much exudation.
3. Thickly coated tongue and foul breath, the tongue desquamating as in scarlatina.
4. A patchy or punctate rash on the roof of the mouth and buccal mucous membrane.
5. Swelling of the cervical lymphatic glands.
6. A roseolar rash on the skin (in 12 out of 18 cases—in 4 cases early in the attack ; in 8 cases on the fifth to the seventh day from the first symptoms, or invasion).
7. Distinct desquamation (in 3 cases), the peeling being particularly marked on the hands.

LITERARY NOTE.

AN interesting work is announced by the Caxton Publishing Co., of Surrey St., London, W.C.—namely, an *Atlas of Obstetrics* to which the stereoscopic method has been applied throughout. The work is edited by Dr. Barbour Simpson, Senior Assistant to the Professor of Midwifery in the University of Edinburgh, and Mr. Edward Burnet, M.B., Ch.B. The work will be on the same lines as *The Edinburgh Stereoscopic Atlas of Anatomy*. Its aim is to provide a permanent record of things “as they are seen” ; to supply a complete set of types of normal and abnormal pelvis ; and to illustrate the mechanism of labour in a manner unapproached by any other method of demonstration, bringing out in bold relief the anatomical features of outstanding importance from an obstetrical point of view. Professor Sir J. Halliday Croom contributes a preface to the work

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Trypanosomes and Trypanosomiases. By A. LAVERAN and F. MESNIL. Translated and much enlarged by DAVID NABARRO, M.D., B.Sc., D.P.H. Lond.; Member of the Royal College of Physicians, London; Assistant Professor of Pathology and Bacteriology, University College, London, &c., &c. One coloured plate and 81 other Illustrations. London: Baillière, Tindall & Cox. 1907. Pp. xx + 539.

THE appearance of Laveran and Mesnil's work on trypanosomes and trypanosomiases in English is not unexpected, because the original, when it was published, at once took a commanding place in literature especially pertaining to the mysterious diseases of man and animals in the tropics and sub-tropical countries. The book before us is, however, more than a translation of the original, it is essentially a new edition, containing not only all that found in the first edition of 1904, but a *résumé* of practically all the work done upon these parasites and the diseases they produce since that time. Moreover, the Editor has incorporated the work of the lamented Schaudinn upon the spirochætes, and his opinions upon the relations of these interesting and still undetermined parasites to trypanosomes.

Further, we have an account of the Leishman-Donovan parasite of Kala-azar, and the opinions expressed upon the nature of the parasite by those to whom opportunity has been given to study it. Trypanosomes discovered since the publication of the original work are described. As evidence of the activity of workers in the field we may mention that there are described as diseases allied to Nagana, or the tsetse fly disease, forms of trypanosomiases in the Cameroons, Somaliland, Abyssinia and Erythrea, Anglo-Egyptian Soudan, Uganda and adjacent parts of Africa and of French Guinea, all of which are incorporated in this volume, and which have been

more or less differentiated since the original volume appeared in 1904.

The chapters on Gambian horse sickness, surra, mal de caderas, and galziecte or gall sickness of cattle are replete with information, and contain numerous references to recent publications.

Then, under Dourine—that disease known for many years as mal du coît or equine syphilis—a disease found only in stallions and mares at the stud, and which is conveyed during coïtus, we find included the researches of Mott upon the changes occurring in the central nervous system. We mention this as evidence that nothing has escaped the vigilance of the Editor to make this English edition an absolute record of our knowledge of the moment.

To medical men, and not less also to veterinary surgeons, the chapter on sleeping sickness will appeal directly, because of the danger of infection to Europeans residing in East Africa. Especially valuable is the account of the changes occurring in the brain and other organs, and the results of experimental infection in the lower animals.

An entirely new chapter on the treatment of the trypanosomiasis is added, and this is of especial interest and value, as the account given includes the researches of many and the results obtained. Numerous and varied are the remedies tried or suggested, but of all atoxyl or meta-arsenic-anilide appears to be the most successful. Indeed, Koch believes it will be for the trypanosomiasis what quinine is for malaria, but others who have used the drug are not so enthusiastic. It has, however, given results which warrant a further and extended trial in the field. The work of Mesnil and Nicolle, using the benzidine dyes following upon the lines of Ehrlich and Shiga in the use of trypan-red, is pretty fully given. The chapter teems with information, and, though not easy reading, is very suggestive. Other chapters refer to the trypanosomes of birds, reptiles, batrachians and fishes, with numerous sections included which are entirely new to the volume under consideration.

The last chapter is upon the tsetse fly and the trypanosomes they harbour, and here again is much new matter, and very interesting and valuable.

The work is of supreme value, not only for the laboratory, but also for everyone interested in disease, and especially tropical diseases. It is as much for the practitioner of human medicine as for the veterinary surgeon, and especially those whom duty calls to wander far afield and encounter diseases the ætiology of which is or was obscure, and the treatment in the experimental stage. The work is a mine of scientific research, full of suggestions, replete with our present-day knowledge, in fact indispensable to anyone who would possess a knowledge of these blood parasites and the diseases they produce. We cordially recommend the book, not for the book-shelf, but for the laboratory table or reading desk. It merely remains to be added that we offer our tribute to the excellent work of the Editor, who has done his part thoroughly and well.

The get up of the book is all that can be desired—it is well printed, well bound, and the illustrations are good.

A. E. M.

Ueber das spezifisch Menschliche in anatomischer, physiologischer und pathologischer Beziehung—Eine kritisch-vergleichende Untersuchung. Von DR. LUDWIG HOPF. Mit 217 Textbildern und 7 Tafeln. Stuttgart: Fritz Lehmann. 1907. Pp. 469.

THE object of this book is to point out the specific characteristics of the human race, and to distinguish those properties which are peculiar to man from those which he has in common with the lower animals. The work is necessarily mainly a compilation, although it is not wanting in original observations. The matter is always critically examined, and the author states his own opinions clearly. The arrangement of the matter is excellent, and the whole work is eminently readable and instructive. In the first part an interesting account is given of the views as to the origin of man which have been held from the earliest times to the present; as to man's place in Nature; and as to whether all men are of one species or of several.

The ancestry of man is next discussed. An account is

given of the fossil monkeys and of the fossil anthropoids, *Pliopithecus antiquus*, *Pliohylobates eppesheimensis*, *Dryopithecus fontani*, and specially *Pithecanthropus erectus*, discovered in Java by Dubois, and which has excited so much interest among scientific men in recent years. A section is given to the traces of man in tertiary (pliocene and pleistocene) times. The supposed worked flints—the so-called eoliths—are described, and the discoveries in South America, which would show that man lived there at the same time as the giant Armadillo (*Glyptodon*), hunted this animal, and used its carapace as a shelter from the wind and weather.

Remains of man and his works in quaternary time have been extensively found. The oldest *Homo antiquus* is represented by the famous Neanderthal man—while in other places less primitive remains have come to light. All of them are distinguished from the anthropoids by the greater capacity of the skull and the larger size of the brain. Many of these people have left drawings, but beyond the fact that the men and women went naked, they cannot be utilised to form an idea of the appearance of these primitive folk.

The passage from paleolithic to neolithic culture cannot be attributed to gradual improvement, but must be due to foreign influence—a new race partly displacing the old, partly mingling with it, hence the so-called meolithic man.

The second part of the book deals first with Comparative Anatomy and Histology. The structure of man is compared with that of the lower animals, and those points in which he differs are pointed out.

Next, Comparative Physiology and Psychology are dealt with. Of greatest interest, naturally, are the sections on the psychological differences between men and animals. In common with most biologists, the author refuses to admit the existence of a *Seele* (a word difficult to translate, but which seems to include all the mental and spiritual functions) as distinct from the body; and he further holds that the difference between the *Seele* of men and that of animals is not fundamental, but only

one of degree, quoting Haeckel's statement that the psychological difference between a man and an anthropoid ape is less than that between one of the higher and one of the lower monkeys. We cannot follow the author through his examination of the mental faculties, but we may indicate a few of his conclusions. He differs from some writers in denying to animals reason (*Vernunft*)—that is, the power of forming abstract ideas and of reasoning on them. This power varies very much in different individuals and races of men, and in some—as the aboriginal Australians—seems to be altogether wanting. Such people are, mentally, next to the anthropoid apes. The power of reckoning cannot be denied to animals, but the faculty of thinking in numbers, of adding, subtracting, multiplying, and dividing, as well as that of estimating weight, are peculiar to man. A very interesting account is given of the investigations which have been made into the speech of animals—some of which, we are bound to say, seem to us to indicate a lively imagination on the part of the investigators, who seem to fall little short of Siegfried when by means of the dragon's blood he gained the power of understanding the language of the birds. The author, however, thinks that the speech of monkeys and other higher animals is only a precursor (*Vorstufe*) of proper speech, since it possesses only certain sounds for certain emotions and wishes, as well as for command, warning, call for aid, but has not at all attained to the higher stages of articulation. This belongs only to man, corresponding to his higher mental development. When speech was gained cannot be said, but it evidently was developed gradually, and rather by an unconscious activity of the brain than by conscious effort.

Love of country and patriotism are peculiar to men—whether in this they have improved on animals is open to question. Religion and religious ideas are also exclusively human, although there are races, like the survivors, existed among paleolithic races is doubtful, but Patagonians, who are described by Darwin as having no idea of, or no word in their language for, God. Whether

the idea of animism or a belief in a soul persisting after the death of the body, and capable of aiding or hunting, is shown to have prevailed among the people of the later stone age by the discovery of skulls trephined some considerable time before death, most probably those of persons afflicted with mental or nervous diseases, who were operated on in order to allow of the escape of evil spirits.

The production of fire and the manufacture of tools and implements are peculiar to man. An interesting description is given of the implements of stone, clay, bronze, iron, &c., which are now found so abundantly in all our museums. While animals spin and weave, man alone makes clothes to protect him from cold, and perhaps for decency, although this is very much a matter of convention. Men alone have made boats, rafts and other arrangements for navigation: have intentionally mined salt or produced it by evaporation: have represented the objects about them in drawing, painting, or sculpture; and have been able to write.

In a short, but most suggestive, section, a look backwards and forwards is taken, and it is asked whether the animals are capable of such improvement as will bring them nearer even to very primitive man. The general opinion is that this is not possible, although it is pointed out that some animals, in the struggle for existence with men, have improved in intelligence, as have dogs and horses and those animals of whom men have made companions, while other animals—as cows, sheep, and pigs—have deteriorated from their wild condition. Further, the question arises—Are the primitive people at present existing capable of improvement and assimilation to the cultured races? This question the author answers in the negative. He points out that they are not a degenerated race, but one which has remained behind after the extraction of all the better elements. Even Christianity will effect no change in them. It may give them a veneer of culture, but the savage will always remain. Finally, what is the outlook for the cultured races; are they capable of indefinite improvement, and will man develop into a superman? That the development is now one-

sided, that the brain is being developed at the expense of the body is evident. The author holds that when we consider the achievements of the last century there can be no doubt that this development is still in progress, and that in the present century new discoveries in heaven and earth will be made, that improvements in machinery will be effected, and (which we think is very questionable) that our lives will become more comfortable and agreeable. But the struggle for existence, already severe enough, will become more so from over-population, and it is very doubtful that in the future the body will be able to keep pace with the febrile activity of the mind. He instances the disappearance of some now extinct animals due to one-sided development, as in the case of the sabre-toothed lion (*Machairodus*), whose sword-like canine teeth grew so long that the mouth could at last not be opened wide enough, and so the species disappeared. Although he is far from taking the extreme view of some who look on all extraordinarily-endowed men as degenerates, yet he thinks that we may already see symptoms of the ill consequences of the present one-sided development of the brain at the expense of the rest of the body. To this is to be attributed the increase of neurasthenia, mental disease, and suicide, particularly where the over-wrought brain is stimulated by alcohol. Parallel with the increase of mental power we see in the cultured races a diminution in the size of the jaws with early loss of the teeth, in men premature baldness, in women an incapacity to suckle their children, and in both a deficient development of the thorax, with consequent tendency to pulmonary tuberculosis. All this makes Dr. Hopf not very hopeful for the indefinite improvement of the human race, and for the succession of supermen, each higher than his predecessor.

The last division of the book deals with comparative pathology and a discussion of all those diseased conditions from which man suffers in common with the lower animals, and those which are peculiar to the human race. This part, which occupies nearly eighty pages, is full of interesting matter, but our space will not permit us to

notice it in detail. The book concludes with a chapter on comparative therapeutics. There is a good table of contents at the beginning and a full index at the end. A bibliographical list of works is given, and the text is well illustrated with engravings and plates.

In conclusion, we would strongly recommend this book to all our readers who know German. It is a work we should be glad to see translated. It is full of interesting and suggestive matter.

A System of Medicine. Edited by WILLIAM OSLER, M.D., F.R.S., Regius Professor of Medicine in Oxford: and THOMAS MCRAE, F.R.C.P., Professor of Medicine, Johns Hopkins University. Vol. I. London: Henry Frowde; Hodder and Stoughton. 1907.

The first volume of the projected seven, which are to constitute "Osler's System of Medicine," has come to hand. As far as its general get-up is concerned it may be described as a bulky volume, indifferently bound, and with some of the groups of pages badly sewn in. The paper is good, the printing fairly clear, and a wide edge is left on the page. An adequate index is provided; about seventy-five illustrations are included; and there are nine very excellent plates. At the commencement of the book a list of contributors is given, and one cannot help being struck by the fact that out of twenty-two writers only four, excluding Professor Osler himself, belong to the United Kingdom. The remaining hail for the most part from the United States and Canada. This, of course, stamps the work at once as being mainly American, and to a certain extent, therefore, informs the reader as to what he may expect.

An interesting introduction is contributed by the Editor, in which he insists upon the need for new works of the present type by pointing out how it compares with Pepper's system of medicine of twenty years ago. We feel compelled to ask whether a comparison with the more modern systems that are at present in vogue would emphasise the same need. In Section V.

of the introduction we are told that the work is designed primarily for the practitioner, but we hardly think this a sufficient reason for the omission of lists of works and papers consulted. No doubt comparatively few practitioners require or would make use of a bibliography, but as time goes on works like the present become landmarks in the evolution of medical knowledge, and in consequence it is of importance that they should contain lists of the authorities on whose work the compilation has been built up. Such lists also are of great value to those who wish for themselves to pursue any subject further.

The main portion of the work is divided into nine sections. The first of these, on Inheritance and Disease, is from the hand of Adami. It is most clearly and beautifully written, and forms an admirable exposition of a very complicated subject. Then follow three sections on Diseases caused by Physical, Chemical, and Organic Agents respectively. The next three are concerned with diseases caused by vegetable parasites other than bacteria, by protozoa, and by animal parasites: while the last two sections deal with Nutrition and Constitutional Diseases. The article on Nutrition is written by Professor Chittenden, and is characterised by the excellent judgment he has shown in arranging the subject-matter and by the extent of its information. Of the remaining sections and chapters those we have read were quite up to date. Few of them call for any special notice, but we desire to draw special attention to the admirable chapters on auto-intoxications by Englebert Taylor. They are brief and to the point; at the same time complete and systematic.

Photосcopy (Skiascopy or Retinoscopy). By MARK D. STEVENSON, M.D. (Akron, Ohio, U.S.A.). W. B. Saunders Company. 1906. Pp. 126.

THE exhaustive and rather exhausting treatise before us deals with a subject of the greatest possible importance to every ophthalmologist; and Dr. Stevenson has not spared words or

space in his endeavours to make the subject clear. We do not, however, quite make out, either from his preface or from the work itself, for what class of reader it is intended. If it is for a student originally ignorant of the subject, and wishing to acquaint himself with this method of testing the refraction, we fear his patience would be too sorely tried before he had waded through the 112 pages of matter presented to him. If it is intended for the ophthalmologist who wishes to perfect himself in the test and to understand the meaning of the various phenomena which he observes, we fear the innumerable minute directions on unimportant points, and the frequent insistence upon the obvious, will militate seriously against his adoption of this treatise as his guide.

One feels that all the valuable matter of the book could be equally clearly expressed in quarter the number of words. Dr. Stevenson is evidently a lover of new terms. He prefers "photoscopy" to any of the older and better known terms, none of which accurately express what is meant. He confuses the unwary student by introducing the term "hypometropia" as synonymous with myopia.

A full bibliography, occupying 19 pages of very small print, completes the volume, which is nicely got up, well printed, and abundantly illustrated.

A Text-Book of Practical Therapeutics. By HOBART AMORY HARE, M.D.; Professor of Therapeutics in the Jefferson Medical College, Pa. Twelfth Edition, Enlarged and Revised. Illustrated with 114 Engravings and 4 Coloured Plates. London: Henry Kimpton. 1907.

A VOLUME that has reached its twelfth edition does not require more than a brief notice to inform the public that it is again to be obtained. It certainly requires no review. Dr. Hare's book has long since established not only its own but also his reputation. The present edition, like its predecessors, is divided into four parts, which deal respectively with (1) General Therapeutical Considerations; (2) Drugs; (3) Remedial Measures other than Drugs—this section dealing also with sick feeding;

(4) Treatment of Diseases. Part I. is comparatively short, as is also Part III., so that the bulk of the work is composed of a detailed account of drugs and of their various uses and applications in disease. The book is well up to date, and is sufficiently complete. Reference to it is greatly facilitated by its possessing two indexes, one of Diseases and Remedies and one of Drugs. It is nicely got up as a companion volume to the author's "Text-Book of Medicine," and is clearly printed on good paper.

Manual of Practical Anatomy. By D. J. CUNNINGHAM, M.D. (Edin. et Dubl.), D.Sc., LL.D., D.C.L. (Oxon.), F.R.S., Professor of Anatomy in the University of Edinburgh. Vol. I.—Upper Limb; Lower Limb; Abdomen. 237 Engravings, many in colour. Pp. 641. Vol. II.—Thorax; Head and Neck. 236 Engravings, many in colour. Pp. 618. Edinburgh and London: Young J. Pentland. Cr. 8vo. 1907.

In the arrangement of its contents the fourth follows the lines of the earlier editions of the manual. Many new and excellent drawings have been added, and the work can only be described as being beautifully and profusely illustrated. Where necessary new descriptions have been added or substituted, and the text has been thoroughly brought up to date.

For some years Professor Cunningham's Manual has held a high place among anatomical books, and the fourth edition is certain to retain for it the reputation of being the most lucid, the best written, and the most beautifully illustrated text-book of practical anatomy in the English language.

Students should certainly see this manual before deciding upon a handbook for the dissecting room.

The Practitioner's Medical Dictionary. By GEORGE M. GOULD, M.A., M.D. London: H. K. Lewis. 1907.

THIS is a large medical dictionary of over 1,000 pages. It is illustrated here and there by explanatory diagrams and figures. As far as one can judge it seems to be very complete. Those words that we have looked up in it were fully defined,

and in most cases several of their uses were exemplified. The derivation and pronunciation of the words are also given, but in most cases the length of the different syllables are not indicated by accents. The author seems to have been at much pains to render his work of value to those for whom it is intended.

RECENT WORKS ON NURSING.

1. *A Text-Book of Mental and Sick Nursing*; Adapted for Medical Officers and Nurses in Private and Public Asylums. By ROBERT JONES, M.D., B.S. Lond., F.R.C.S. Eng., F.R.C.P. Lond.; Resident Physician and Superintendent of the London County Council's Asylum, Claybury, at Woodford Bridge, Essex; Late Resident Physician and Superintendent, Earlswood Asylum, Surrey; Lecturer upon Mental Diseases at the Westminster Hospital Medical School; late Lecturer on Mental Diseases at the West London Post Graduate College and the London Polyclinic; President of the Medico-Psychological Association of Great Britain and Ireland; late President of the Section "Psychological Medicine," British Medical Association; Knight of Grace of the Hospital of St. John of Jerusalem. With an Introduction by SIR WILLIAM JOB COLLINS, M.D., M.Sc., B.Sc. Lond., F.R.C.S. Eng., M.P., D.L., J.P.; Vice-Chancellor of the University of London; Honorary Secretary of the League of Mercy, and President of the Asylum Workers' Association. London: The Scientific Press, Limited. 1907.
2. *Practical Fever Nursing*. By EDWARD C. REGISTER, M.D., Professor of the Practice of Medicine in the North Carolina Medical College; Chief Physician to St. Peter's Hospital; Editor of the Charlotte Medical Journal. Illustrated. Philadelphia and London: W. B. Saunders Company. 1907. 8vo. Pp. 352.
1. In the first sentence of his *Introduction* to this neat and well-printed volume, Sir William Job Collins observes: "It has been wittily remarked that a specialist should be a good general practitioner, and something more, but that

he is very often something else." We had expected that this last word would have been "less"; the statement would then have been more definite and, in our opinion, none the less true—for attempting to enunciate a very serious fact instead of a rather vaguely expressed witticism. However, in the instance now before us we have an example of a specialist who is evidently optimistic and enthusiastic. He appears to have spared no pains to make himself master of his subject. In his preface he informs the reader: "I believe, from personal knowledge of asylums in France, Germany, Italy, Austria, Switzerland, Scandinavia and Russia, that nursing the insane in our country is second to none, and credit for this is due to the zeal, interest and earnest concern which the Medico-Psychological Association of Great Britain and Ireland has . . ." He also states, with regard to the desirability of a thorough training in, and the attainment of knowledge of, this important specialty: "I do not minimise tact, judgment, patience and good humour as indispensable equipments for the asylum nurse, but I do think that knowledge properly applied, and experience well directed by a course of training in a person of average intelligence and mental capacity, tend to increase 'perfectibility.'" This view can hardly be opposed by any sensible critic, however successfully ignorance may still be guarded and nursed by its faithful votaries! Few will be found to argue openly that the possession of *knowledge* will ever diminish the value of the services of the practitioner thereof possessed—although we know of one important section of the great British Empire in which the reputation of such acquisition has sometimes been found to constitute one of the most serious obstacles to special public recognition.

The volume is dedicated to "H. R. H. Helena Augusta Victoria, the Princess Christian, whose benevolent patronage and warm and sympathetic personal encouragement have done so much to raise the standard of nursing the sick and poor." The text is divided into twenty-four chapters. The first six of these—beginning from "General Remarks"—give an excellent semi-popular account of the structure and functions of the nervous system, and the other principal organs and their associated phenomena. On this foundation

the writer proceeds to build up his system of abnormal conditions—associated with the specialty with which his own name is so worthily connected: their origin and intimate nature, their manifestations, and their treatment. (We are very pleased to take the opportunity of pointing out the valuable feature of the insertion, in each chapter of the text, of two blank leaves intended for the reception of “Notes by the Nurse.”)

We have rarely found so much sound information collected in so small a space as in this volume. The author's theory is everywhere, in our opinion, sound and reliable to an unusual degree: and the practice thereon based is, as a direct consequence, of a correspondingly healthy quality. Even the occasional items of collateral information—in which an author who is saturated with his subject inevitably indulges at times—will be appreciated by every reader of taste and judgment. It will be something of a relief to the semi-sane to learn that Joan of Arc, Peter the Great, and Warren Hastings were permanent victims of delusions, although so unusually distinguished in the discharge of life's most important functions. It is hardly necessary to add, in conclusion, that we consider Dr. Jones's text-book entirely worthy of the success which we most cordially wish it.

2. THE characteristic individuality, as it may probably be best designated, of Dr. Register's excellent text-book is based on the author's view that it is “necessary, in the preparation of a work of this kind, to incorporate and describe in as non-technical a manner as possible the pathology of the different fevers, their prognosis, and the various methods of treatment.” Carrying out this view to the extreme limits of its longitude and latitude, Dr. Register has thoroughly executed a task of truly colossal dimensions: in the various departmental directions of collection, selection, concentration (literary, expression, elucidation, and pre-digestion. He is evidently a full believer in the importance of the bedside auxiliary, for whose education he has undertaken (so skilfully and painstakingly) to provide. With his view in this matter we cordially coincide. As he truly observes: “A properly trained nurse, in whom all have confidence, can and does

make the path much more smooth and easy for the patient, friends, and physician. On the other hand, when, on account of poverty or ignorance, a relative, friend, or neighbour is used as a substitute for a trained nurse, the experienced practitioner immediately takes it upon himself to put forth an extra effort, which necessitates a great deal of time and attention. All the time he realises that he has had placed upon him the worst hardship that can fall to the lot of the general practitioner. This is doubtless often the cause of failure to obtain results that are easily accomplished when assisted by skilled hands." This unquestionable and formidable obstacle to the satisfactory progress of medical practice has, of course, been rapidly diminishing, in dimensions and in vitality, during the past quarter of a century; and there is little doubt that, within the next few years, the truly noble philanthropy of such enthusiastic and accomplished pioneers of teaching and practice, as Dr. Register here proves himself to be, will have reduced it to the ghostly dimensions of an antiquarian shadow. "Honour the physician for the Lord hath made him." We can also well afford—while dutifully obeying this commandment—to honour the skilled nurse, the necessary auxiliary of the skilled professional healer. And a double—more justly perhaps we should call it "Benjamin's"—portion of honour should be dealt out to the master-healer who possesses the skill to educate his clinical lieutenants, and spares neither time nor labour in the arduous process.

The volume before us is well printed, on excellent paper, and tastefully bound. Perhaps it is only the laborious student, or the over-read reviewer, who estimates these superficial qualities at their true practical value. The illustrations—65 in number—are highly instructive and well-selected. They include representations of instruments, of clinical charts, of bed-side snap-shot scenes, and of the characteristic exanthems of the eruptive fevers. These last, not being in colours, are, of course, of comparatively limited value in way of demonstrative instruction; but so far as they go, they are good and reliable. The text includes an amount of matter so enormous in quantity and variety, that it would be mere idle presumption on the part

of a reviewer to offer a detailed criticism. It is the less necessary in the present instance, as we have no feeling to enunciate other than one of approval. We will just make (in defence of our position as critical censors) one passing interrogative remark—in association with, not in criticism of, an item of Dr. Register's text which has come to be the public property of the medical manuals of the present day. How did "*Koplik's spots*" come to be so adhesively labelled at their baptismal nomenclature? They were, as we can testify, the subject of daily clinical demonstration in the fever wards of the Meath Hospital of this city over thirty years ago—a date long prior, we believe, to that of Dr. Koplik's medical diploma.

The Year-book of the Scientific and Learned Societies of Great Britain and Ireland. A Record of the Work done in Science, Literature and Art during the Session 1905-1906 by numerous Societies and Government Institutions. Compiled from Official Sources. Twenty-third Annual Issue. London: Charles Griffin & Co., Ltd. 1906.

THE elaborate title of this excellent year-book very fairly states its objects and its contents. The volume gives a good summary of all the subjects which have occupied the attention of scientific workers during the past twelve months, and shows the progress made in the different branches of science during that time. Such a work cannot but be suggestive and useful to literary men, and to none more so than those engaged in medical literature.

A Manual of Venereal Diseases. By Officers of the Royal Army Medical Corps: SIR ALFRED KEOGH, LIEUT.-COL. C. H. MELVILLE, COLONEL LEISHMAN, MAJOR POLLOCK. London: Henry Frowde: Hodder & Stoughton.

THIS little volume is one of the Oxford medical publications, and is got up in almost the same way as the manuals which are being issued in such numbers. Written by officers of the Royal Army Medical Corps, it should appeal especially to

members of that body. The first chapter sketches the history of the various attempts that have been made to check the spread of syphilis in the army and navy, and outlines what the writers believe to be the best methods to pursue in the future. In Chapter II. a very useful account is given of the *Treponema pallidum*, and careful directions for staining it, both in smear and sections, are included. The next chapter deals briefly with the symptomatology, and contains an absurd and would-be humorous "table of values in diagnosis," which, in our opinion, can be of help to nobody. The succeeding chapters deal with the treatment of syphilis, special prominence being of course given to the methods of intramuscular injection; and lastly, chapters on gonorrhœa and on soft sores are added. We believe that the book will be of considerable value to those for whom it is intended.

The Principles of Clinical Pathology: A Text-book for Students and Physicians. By DR. RUDOLPH KREHL, Ordinary Professor and Director of the Medical Clinic in Strasburg. Translation from the Third German Edition. by A. W. HEWLETT, M.D., Instructor in Clinical Medicine at the Cooper Medical College, San Francisco. Philadelphia and London: Lippincott. Pp. 504.

THIS is a valuable book, and will be found generally useful. Too often the subjects of pathology and of morbid anatomy are not kept distinct, and works purporting to treat of the former are largely concerned with the latter. Disturbance of structure and disturbance of function often go hand in hand, yet in many cases disturbance of function must be considered apart from any change of structure. This fact is proved by Dr. Krehl's work: it treats of pathology pure and simple, and discusses the perversions of function of the various organs and systems of the human body.

The first chapter treats of the heart, and runs to nearly ninety pages. In it we find an admirable account of the causes and significance of such alterations as hypertrophy and dilatation, of the effects on the heart and circulation of the various valvular lesions, of the alterations in the cardiac

rhythm. In fact we have not elsewhere met with so clear and complete account of the pathology of the heart. It is interesting to note with reference to the hypertrophy found in Bright's disease that Krehl considers that the hypertrophy affects the right as well as the left ventricle; he regards it as certain that it is caused by increased blood pressure; but he considers that we are entirely ignorant of the cause of this increased pressure. His conclusions appear to be eminently cautious and sane; when any matter is still uncertain and not capable of explanation, he does not hesitate to say so.

In addition to chapters on the other systems of the body—respiration, digestion, the secretions—there are chapters on gout, diabetes, fever, and infection, which, perhaps, show the limitations of our knowledge quite as clearly as its extent. But, after all, this is far better than any enthusiastic support of ill-founded theories.

This book we regard as valuable, instructive, and reliable, and we warmly recommend it.

Practice of Obstetrics. In Original Contributions by American Authors. Edited by REUBEN PETERSON, A.B., M.D.: Professor of Obstetrics and Gynæcology in the University of Michigan, Obstetrician and Gynæcologist-in-Chief to the University of Michigan Hospital. Illustrated with 523 Engravings and 30 full-page Plates. Philadelphia and New York: Lea Bros. & Co. 1907. Pp. 1087.

WE have already had occasion to review very favourably the companion work on gynæcology to the volume in front of us. The two books, in association with a third on the "Diseases of Children," constitute a series known as "The Practitioner's Library," and though perhaps to the average British medical man each may seem to be more suited for the specialist than for the general practitioner, they are, from the specialist's point of view, none the worse for that.

Like its companions, the book is composed of contributions from the pens of different writers, amongst whom

may be mentioned Bacon, Crockett, Dorand, Ehrenfest, Huber, Manton, Schenck, and Warthin. It is divided into nine parts. The first four of these deal with the physiology of obstetrics, the next three with the pathology of obstetrics, the eighth with obstetrical operations, and the ninth with the new-born infant. We are inclined to regard such an arrangement as very much the most suitable for obstetrical works. The book is well illustrated; its style is, on the whole, clear and concise, and its type and paper are excellent. We can thoroughly recommend it as a full and reliable guide to the practice and theory of modern obstetrics.

Epilepsy: A Study of the Idiopathic Disease. By W. ALDREN TURNER, M.D.; Visiting Physician, The Colony for Epileptics: &c., &c. London: Macmillan & Co. 1907.

THE author of this book has had exceptional opportunities for studying epilepsy in his capacity of visiting physician to the epileptic colony at Chalfont, St. Peter, and in the out-patient department of the Queen Square Hospital, the volume, in fact, comprising in its original portions the results of the study of one thousand cases. To those practitioners who have less experience, but who still number amongst their cases epileptic patients, the book should prove most valuable and suggestive, forming as it does a readable and systematic account of the disease in all its bearings. It is divided into twelve chapters, of which the first three deal with the ætiology, the succeeding four with the clinical phenomena, including under that heading the associated mental states and the various accidental occurrences commonly met with. Chapters VIII. and IX., dealing with the pathology, are written by Dr. John Turner, of the Essex County Asylum: while the last three chapters deal respectively with diagnosis, prognosis, and treatment. Numerous illustrative plates and tables are reproduced, and afford considerable aid in following the author's arguments.

The chapter on prognosis, which is based entirely on

the author's own analyses, is a most interesting one, and brings out forcibly the fact that epileptiform fits occurring at puberty are much more liable to be permanently arrested than those occurring at any other period of life. This fact is, we think, a matter of common belief, and it raises the question as to whether two or three fits occurring at intervals of a month or more at this time are to be regarded as true epilepsy or not. The writer discusses this point at various places throughout the book, and expresses the opinion that they are to be so considered, and, further, says that such cases should be treated by a prolonged bromide course. Neither point is, we think, conclusively proved, and we take particular exception to the recommendation concerning treatment, for we think the type of case referred to is the type that is least likely to be benefited by prolonged medication, and, indeed, is the one in which signs of bromism are most likely to develop if the drug is continued for more than a few months after the cessation of the seizures. Another important and, we believe, true statement is the fact that the prognosis is better the earlier a bromide treatment is instituted, while we may add that hardly any case is too far advanced to benefit by the systematic use of the bromide of salts.

The chapters on pathology are well written, and the phenomena described are considered under the following three headings:—(1) Changes in the cerebral cortex indicative of a congenitally defective nervous system; (2) changes produced by the epileptic attacks; (3) changes which appear to act as causal factors of the epileptic attacks. Dr. Turner states his belief that "Epilepsy is a disease occurring in persons with a defectively-developed nervous system, and in whom there is a special tendency to intravascular clotting; . . . prior to a seizure a condition of cortical stasis is induced by the formation of intravascular coagula." The hypothesis—or rather the series of hypotheses which are propounded—is difficult to prove or disprove, but these hypotheses form a convenient support for the facts that are adduced. The chapter constitutes undoubtedly the best summary in the

language of our present knowledge. The chemical pathology is discussed at less length, and we gladly note that little stress is laid on such alleged conditions as hypotoxicity of the urine before fits and subsequent hypertoxicity.

In the clinical chapters special attention is devoted to "serial epilepsy," and a most interesting account of so-called "psychical epilepsy" is given. This last-named is, of course, most important from a medico-legal, as well as from a purely medical aspect, and the chapter in consequence deserves careful study.

The book is one of which we think every person at all interested in the subject should possess himself, and read without delay.

Selected Essays on Syphilis and Small-pox. Edited by ALFRED E. RUSSELL, M.D., Lond., M.R.C.P. With Illustrations and Charts. London: The New Sydenham Society. Volume CXCV. 1906. 8vo. Pp. xiii + 215.

THE Council of the New Sydenham Society has done well to gather together in a handy volume a number of classical essays on the ever engrossing subjects of syphilis and small-pox.

The work may be described as consisting of three parts. In the first division we have an English rendering of the several articles on the occurrence of spirochætes in syphilis which were contributed to German medical literature in 1905 by Dr. Fitz Schaudinn and Dr. Erich Hoffmann. These papers have been translated by Dr. T. G. Brodie, F.R.S. They are illustrated by some very beautiful microphotographs of *Spirochaeta pallida* and *Spirochaeta refringens*.

Schaudinn's and Hoffmann's essays are followed by an abstract of a paper by Dr. Theodore Shennan, entitled "*Spirochaeta pallida* (*Spironema pallidum*) in Syphilis," which was published in the *Lancet* for March 10 and 17, 1906. A valuable *résumé* of the literature occupies some twelve pages of the book, and is followed by a concise description of the parasite.

A brief abstract of Dr. Aldo Castellani's observations on the presence of spirochætes in yaws brings this part of the

volume to a close. Castellani's first paper announcing his discovery of the presence of spirochaetes in yaws was read before the Section of Tropical Diseases at the Annual Meeting of the British Medical Association at Leicester in 1905. His discovery affords strong confirmation of the correctness of Mr. Jonathan Hutchinson's attitude in maintaining for years his view of the common origin of syphilis and yaws. It will be remembered that he advocated this view in 1902 in an article on "Frambœsial Syphilis" in Fasciculi I. and II. of the New Sydenham Society's Atlas of Clinical Medicine, Surgery and Pathology.

The second part of the work contains four communications, giving the results of experimental investigations on syphilis, by Professor Élie Metchnikoff, of the Pasteur Institute, Paris, and Em. Roux, Director of that Institute. These papers were published in the *Annales de l'Institut Pasteur* for 1903, 1904, and 1905. The translation is by Dr. W. S. Colman, F.R.C.P.

The third and concluding portion of this instructive volume contains three selected essays from "Studies on the Pathology and on the Ætiology of Variola and of Vaccinia" from the Publication Office of the Journal of Medical Research, Boston, Massachusetts, U.S.A.

The subjects of these essays are—The Life History of *Cytoryctes variola* (Guarnieri), by Gary N. Colkins, Ph.D., of Columbia University; Epicrisis, by Professor W. T. Councilman, of Harvard University; and Clinical Observations on Variola, by J. R. Bancroft, formerly Resident Physician to the Boston Detention Hospital. All are good reading.

Nerve Diseases. For Students commencing Hospital Practice.

By L. A. CLUTTERBUCK, M.D : Clinical Assistant, West End Hospital for Nervous Diseases. London: The Scientific Press. 1907.

THIS is a handy little book designed to aid medical students in their earlier years in grasping the meaning of the physical signs and in understanding the symptoms of patients suffering from the more common varieties of nervous diseases. It is

not in any way meant to replace the larger manuals on diseases of the nervous system, but rather to be an introduction to their use. Such a work has long been wanted, and we feel, therefore, that the present book will fill a distinct gap. The writer very properly bases his description of disease on the anatomy and pathology of the parts involved, and, therefore, devotes the earlier chapters to a concise description of the course of the various nerve tracts, and to the general anatomy, both macroscopical and microscopical, of the central nervous system. He has a most pleasing and easy style of writing, and is, therefore, able to place his facts before the reader in an easy assimilable form, deducing, as far as possible, symptoms and signs from the pathology of the disease he is dealing with. The book is illustrated with line diagrams, such as are usually drawn on the blackboard for clinical teaching, and are just as useful as more elaborate illustrations. A useful chapter on some common symptoms in nervous complaints is introduced at the end of the book, and also a short summary on general treatment. We cordially recommend the book to those for whom it has been written.

YEAR BOOKS FOR 1908.

1. *Who's Who*, 1908. London: A. & C. Black. 1908. 8vo. Pp. xxiv + 2040.

THE reviewer's task in regard to this indispensable work is an easy one. It is simply to announce its publication and to commend it as a storehouse of information about titled people and men of letters.

The number of biographies is constantly increasing in consequence of the popularity of the work, and so it comes that the present volume is materially enlarged. It includes more than two thousand pages of letterpress in fine type.

The contents have been corrected up to September 30, 1907. This issue, therefore, does not contain the most recent Birth-day Honours, which were not declared till November 9. As the biographies are in most instances auto-biographies, they may be considered to be accurate, if occasionally laudatory. Speaking generally, they are very interesting reading.

A word of praise should be said for the famous publishing

firm which has brought out the work in such good style and with commendable punctuality.

2. *Wellcome's Photographic Exposure Record and Diary*, 1908.

WELLCOME'S "Exposure Record and Diary" banishes the greatest obstacle to success in photography—that of correctly estimating exposure. It does this so simply that the youngest beginner finds no difficulty in its use; it does it so thoroughly that experts use it in preference to any other guide to exposure. The actual determination of correct exposure is made by an ingenious little mechanical calculator attached to the cover of the book. This is known as Wellcome's Exposure Calculator. A single turn of a single scale is all that is necessary. This little instrument—with its accompanying tables giving the value of the light at all times of the day and year, and its list of the relative speeds of more than 180 plates and films—is alone worth more than the cost of the whole book. It certainly saves dozens of plates which would otherwise be wasted owing to errors in exposure.

This calculator is, however, but a part of the book, which contains a full article explaining all the conditions governing exposure, with special illustrations and tables for interior work, for telephotography, for copying, enlarging and reducing, for moving objects, for night photography, and for printing by artificial light. In addition, there are tables of weights and measures—imperial and metric—notes on focussing by scale, Customs regulations, a temperature chart, a full article on development, including instructions for time, tank, and machine development, and directions for toning, intensification, reduction and similar photographic operations by the simplest and most satisfactory methods available.

Bound up with these printed pages of condensed photographic information is a complete diary for 1908—one page for each week—together with ruled pages for systematically recording the details of over 300 exposures; also pages for memoranda, and for recording the exposures found to be correct when printing from negatives on bromide, gaslight, platinotype, carbon, and other printing papers.

The book is enclosed in a neat wallet cover, lettered in gold, and fitted with a pencil and a pocket for storing proofs, &c.

A new and important feature of the 1908 edition is, that it entitles purchasers to a hanging card for the dark room, giving the relative exposures required when using any one of 84 varieties of bromide paper or lantern slides.

The addition of a handy table for calculating exposures in photography at night is another new and useful feature.

Wellcome's "Photographic Exposure Record and Diary" is suitable for use in all quarters of the globe. Its power to calculate exposure correctly has been tested in every Continent and in every latitude from arctic, temperate, sub-tropical, tropical to antarctic. For the convenience of users in different parts of the world three editions are issued.

1. The Northern Hemisphere Edition (bound in light green). For all countries north of the Tropic of Cancer.

2. The Southern Hemisphere and Tropical Edition (bound in dark green). For all countries south of the Tropic of Cancer.

3. The United States Edition (bound in red). For use in the United States of America.

When purchasing, care should be taken to specify which edition is required. The price in London is only one shilling.

A Manual of Pathology. By GUTHRIE McCONNELL, M.D.; Pathologist to the St. Louis Skin and Cancer Hospital. Philadelphia and London: W. B. Saunders Co. 1906.

It is only during the last couple of years that attempts have been made to supply the widely-felt want for text-books dealing in a simple manner with the main facts of general and special pathology. Previous to the present period many books existed, but most of them were too detailed and too abstruse for the ordinary medical student. The present volume errs, if it errs at all, on the side of being a little too elementary, but at the same time it will appeal very much to a large number of students by its handy size, its general conciseness, and the easiness of the author's style. It is, in fact, a good summary of all the important principles and facts of pathology, stated dogmatically, and without any theo-

retical discussion. The illustrations, for a book of the kind, are very good and eminently helpful. The printing and paper are excellent, and a good index is provided.

The Practical Medicine Series: General Medicine.

Edited by F. BILLINGS, M.D.; Head of the Medical Department, Rush Medical College; and J. H. SALISBURY, M.D., Professor of Medicine, Chicago Clinical School. Series 1907. Chicago, Agents for Great Britain: G. Gillies & Co., Glasgow. Pp. 364.

THE "Practical Medicine Series" represents a new year-book on the various branches of medicine and surgery, which is to be completed in ten volumes. That before us is devoted to General Medicine. It contains a very careful and full account of the medical work of the year—indeed, our chief criticism is that it appears to be almost too full. Some of the pages are taken up with statements that can hardly be called new, and we think that further condensation would have made the work more useful. Still the volume contains a valuable account of a vast mass of medical literature belonging to almost every country, in a form that can be consulted with facility. The index—an important part of a volume such as this—is only fair.

Sea-Sickness: its true Cause and Cure. By H. NORMAN BARNETT, F.R.C.S.; Surgeon, Cripples' Home, Belfast; late Surgeon, Peninsular and Oriental and Orient Mail Services. London: Baillière, Tindall & Cox. 1907. Pp. 39.

THIS little book is an interesting and valuable contribution to the literature of an important subject, written by one who has had a very wide experience connected therewith. The personal element is prominent throughout. The book is no mere compilation, but is full of Dr. Barnett's own views—it certainly merits our careful attention.

After reviewing the different ideas as to the causation of

sea-sickness which have been put forward, Dr. Barnett propounds his own view—he is an unhesitating supporter of the theory that sea-sickness results from disturbances of the pressure of the endolymph in the semi-circular canals. In this we think he is very probably right, but when he grounds one of his arguments for the endolymph origin of sea-sickness on the fact that two of the canals are vertical and one horizontal, connecting therewith his observation that pitching in a ship produces sickness much more than rolling does, we cannot quite follow him. He says that in pitching the fluid in the vertical canals is affected, while in rolling that in the horizontal canal is the cause of the distress, and, as there are two vertical and only one horizontal, it is easy to understand why pitching should be more capable of causing sickness. It appears to us that the question is so vitally affected by the position of the head of the sufferer, whether upright or recumbent, whether facing the bow or the side of the ship, that no argument can be derived from the anatomical disposition of the canals.

In his description of sea-sickness we do not think Dr. Barnett lays enough weight on the fact that with some sufferers the vomiting goes on for a considerable time after they have got into smooth water, or even have landed.

The treatment he recommends is a preliminary purgative, one or two nights before starting on a voyage; a gastric sedative (bismuth, prussic acid, and morphin), combined with a light and digestible diet, being given for several days beforehand if the stomach happens to be out of order. He then gives, in the case of a short passage, thirty grains of bromide of potassium an hour before embarking; and in the case of longer voyages he recommends potass. brom., grs. 5; ammon. brom., grs. 10; sodii brom., grs. 15; sp., ammon. aromat, \mathfrak{m} 15; syrupi aurantii. \mathfrak{m} 20; aquæ chloroformi, \mathfrak{z} ss—the night before starting and every four hours after embarking until the traveller has got over his tendency to be ill. In about four per cent. of cases he finds the above not sufficient, and he doubles the dose for four doses; if next day the patient is no better he injects $\frac{1}{4}$ grain of morphin. He finds about one per cent. of travellers absolutely incurable as regards their sea-sickness.

In the preface he calls attention to the gross cruelty of sending patients who have advanced tuberculous disease to take a sea voyage.

Medical Ethics. A Guide to Professional Conduct. By ROBERT SAUNDBY, M.D. Edin.; Hon. LL.D., M'Gill; Hon. M.Sc., Birm.; Fellow of the Roy. Coll. of Phys. of Lond.; Member of the General Medical Council; Vice-Pres., late Pres. of the Council of the Brit. Med. Assoc.; Emeritus Sen. Pres., of the Roy. Med. Soc.; Fellow of the Royal Med. and Chir. Soc.; Member of the Pathol. Soc. of Lond.; Prof. of Med. in the Univ. of Birm.; Phys. to the Gen. Hosp., Birm.; Consult. Phys. to the Birm. and Midland Eye Hosp., and to the West Bromwich Hosp.; late Examiner in Medicine to the Examining Board for England. Second Edition, Enlarged and re-written. London: Charles Griffin & Company, Limited. 1907. Pp. 144. Price, 10s. 6d. net.

THE *Ethics* of medical practice is a perennial and, within the ranks of the profession, an all-pervading subject of interest. The general public does not, very naturally, regard such questions and considerations with corresponding curiosity. The man in the street, as a general rule, demands protection—when procurable—against the onset of disease or injury, or the obliteration of all traces of the presence of such when an unwelcome visitation has occurred. Beyond the range of his own personal experience his inquiries are soon limited, and he smiles in scornful amusement on hearing reference made to the variations of the standard scales of etiquette used by Drs. Tweedledum and Tweedledee. The intra-professional friction of the constituent atoms of the great mass of medical practitioners causes no jarring within the circumference of the sphere of the layman's personal interests. This is, of course, exactly as might be expected from the nature of things, universally; and of humanity, particularly. But within the ranks of the profession, overcrowded as it has long been—with steady annual increase of the excess of supply over demand, the existence of a standard code of theoretical morality, and the authoritative insistence

of respectful conformity thereunto, are very desirable indeed. It may even be said to be, in the present state of democratic fluidity of moral and religious, as well as of political, ideas, absolutely necessary to the preservation of our profession as a representative body of honourable and learned (women and) men. Every considerable section of the members of every western civilisation possesses some such code—unwritten though it remains in many instances. And every one of these presents distinctive peculiarities of its own—chiefly the reflected composite impression of the multitudinous commingled and superimposed interests of the body as a whole, and of the constituent units of the same. In that exquisitely-written treatise on Political Economy—the first of its tribe, so far as is known to us, to make the subject of “the dismal science” not merely tolerable but delightful reading—the late General Amasa Walker brings into prominence the social (or *socialistic*) fact that in any community, however mischievous or anarchical in its principles and methods, individual and collective, the members will always be found to submit to those rules and regulations of which the conduct is necessary to the existence of such community as a whole. This universal characteristic of still unhappily unregenerate humanity accounts for the facts that in the remote ranches of the American Far-West, the shooting of a human being remains (publicly) unnoticed, as an incident which concerned only the deceased; while the stealing of a horse is invariably and immediately treated by the radical process of ruthless lynching.

The perusal of Dr. Saundby's carefully-prepared volume is surely nothing less than a duty—and a very essential and pressing one—in the case of every junior diplomat who is just about to enter, or has recently entered, on the thorny road of medical and surgical practice. It will display a somewhat alarming series of pitfalls and quagmires to the mental vision of those who have been brought up in an atmosphere undefiled by the odours of human chicanery. The paragraphs of its very numerous sections and subsections too often afford melancholy testimony to the ever-recurring influences of vile self-seeking, low spite, and detestable mischief-making—even where absolutely unprofitable, and apparently undertaken for the pure pleasure of its practice.

They demonstrate with painful clearness the baneful interference of such factors in the everyday routine of the medical man's duties. It would be impossible—as well as decidedly impertinent—to attempt a criticism in detail of our author's text. Indeed, it may almost be said that there is nothing to criticise, as the pages before us merely contain the existing code of ethics, with illustrative facts and judicious comments. The opinions expressed, in every connection, represent the collective judgment of the profession. Shall we call it the *concentrated wisdom* thereof?

First Aid to the Injured. Six Ambulance Lectures. By DR. FRIEDRICH ESMARCH, Professor of Surgery at the University of Kiel, &c. Translated from the German by H. R. H. PRINCESS CHRISTIAN. Seventh and Enlarged Edition. With Additional Illustrations. London: Smith, Elder & Co. 1907.

THIS booklet surely appeals by its every feature to the fullest and best sympathies of not merely all members of our profession, and all members of the general public—in town and country, but of the human race throughout the whole world—individually and collectively. The advances of mechanical skill and the simultaneous increase of the speed maintained in the race for life have by no means diminished the risks of injury to the individual. The naval and railway record of each passing year furnish the most convincing testimony of this fact, which is further most emphatically corroborated by that contributed by the now ubiquitous motor car, and its coming spiritual rival, the air-ship or aeroplane. Mining accidents at home and Polar expeditions at a distance contribute—with Alpine casualties, earthquakes, floods, typhoons, and thunderstorms—to inflate the annals of the injured; with the more voluminous catalogues furnished by the great wars of our philanthropic generation, and the smaller which are provided by the Employers' Liability Act, and its far-reaching responsibilities. This pocket volume also appeals directly to all strata of society: to the autocratic monarch, through the royal translator whose name appears on the title-page; and to the most liberal and philanthropic democrat,

by the essentially altruistic nature of its contents—in the theory and practice of their teaching. Surely extremes have met here, in the common interest of suffering humanity!

With regard to the present issue, Princess Christian tells us in her preface that she has “made some additions to it from the recent edition published last March by Professor von Esmarch.” The mere fact that this is the *seventh* edition furnishes ample testimony to the appreciation of the public for whose benefit it was designed; and proves that “the important and excellent work done by the St. John’s Ambulance Association is spreading yearly more and more, and is always becoming more appreciated and valued.” Even so, let it be—in *sæcula sæculorum*! And may Her Royal Highness Princess Christian long remain with us to bear the banner of its progress, and furnish an example of, and a stimulus to, the fulfilment of the highest and purest duties of humanity.

The Book of Prescriptions (Beasley). With an Index of Diseases and Remedies. Re-written by E. W. LUCAS, F.I.C., F.C.S. Ninth Edition. London: J. & A. Churchill, 1907. Crown 8vo. Pp. xvi + 366.

A USEFUL old friend, which has been carefully revised and brought up to date by Mr. Lucas—a pharmaceutical chemist of repute and of no small literary power. So would we describe the ninth edition of Beasley’s “Book of Prescriptions.” The eighth edition was published in March, 1905, and reprinted about a year later. As is set forth on the title-page, the work contains a complete set of prescriptions illustrating the employment of the *Materia Medica* in general use. It also comprises notes on the pharmacology and therapeutics of the principal drugs and the doses of their preparations according to the imperial and metric systems. Finally, there is an index of diseases and remedies. Lists of incompatibles and of synonyms of certain potent drugs will be found useful.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.

General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF MEDICINE.

President—J. M. REDMOND, P.R.C.P.I.

Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

Friday, November 8, 1907.

The PRESIDENT in the Chair.

Functional Spastic Paraplegia.

DR. CRAIG exhibited a coachman, aged twenty-three, who had been admitted to the Meath Hospital in March, 1906, complaining of pain, coldness, and a dead feeling in his left leg. [The case is reported at length in the number of this Journal for December, 1907, at page 419, Vol. CXXIV.]

SIR CHRISTOPHER NIXON said it would be difficult to conceive that a case which presented such varied disturbances from the normal could be regarded as simply functional in character. He thought the term functional paraplegia was open to grave objection. It did not explain in any way the multitude of symptoms in the case. At first the patient undoubtedly showed the ordinary symptoms of disseminated sclerosis. There was more about the man than simple functional disturbance; and, while he had the greatest respect for Dr. Craig's acumen in diagnosis, he claimed that there was always room for latitude in nervous diseases, and expressed the opinion that the case was one of disseminated sclerosis undergoing a period of remission.

DR. DRURY said he had seen the case before, and could bear out Dr. Craig's statement that the symptoms were different then

from ten days previously. He did not think, however, that they could altogether depend on the absence of bladder symptoms as necessary early in diagnosis. In nearly all chronic nervous cases very marked functional manifestations appeared. He did not think that any of them could either condemn the patient as being a case of organic disease or buoy him up with the idea that it was merely functional unless they had gone into the case with greater fulness, and they might depend on the diagnosis of Dr. Craig, who had studied the case.

DR. TRAVERS SMITH said that if he had to give a working opinion of the case he would give the same as Dr. Craig, and he believed the patient would get well. By that he would imply the loss of function of some portion of the nervous apparatus, without any discoverable anatomical change to account for it. He did not think they need be afraid of diagnosing functional disturbance while still keeping their minds open to the possibility of its being only preliminary to permanent disturbance. He thought that the very rapidity of the changes that had occurred in the case, as well as present symptoms, were all in favour of functional disease.

DR. WALTER SMITH said that in their present hazy state of knowledge of many aspects of nervous disease, he would hesitate to pronounce a definite opinion as to the exact state of the case, but he shared Sir Christopher Nixon's objections to the use of the word functional, which, he hoped, before long would vanish from medical nomenclature. If a term must be used, he would prefer the word hysterical, which connoted a state of things better than functional. Stress had been laid on the point that if the patient got well, the diagnosis of functional disease would thereby be substantiated, which was as much as saying that if the patient had organic disease he could not get well, and therefore recovery would make a different diagnosis—a line of argument which was quite unwarrantable. The recent demonstration that the nerve-supply of the bladder and rectum was not derived from the lumbar region should modify their consideration of the matter, and he would hesitate to accept Dr. Craig's diagnosis as absolutely correct.

DR. MOORHEAD said he had seen the case previously, and had disagreed with Dr. Craig's diagnosis, but he had since come to think that the disease was functional.

DR. PURSER discussed the site of functional degradation in this case.

DR. CRAIG, in reply, said he did not regard the absence of bladder symptoms as of vital importance, but in nearly every case of disseminated sclerosis with pronounced symptoms bladder symptoms were present. He only dwelt on the absence of such symptoms because it was in combination with the absence of ocular phenomena and ankle clonus.

Exhibits.

DR. WINTER showed a case of amyotrophic lateral sclerosis. The patient was a coachman, aged thirty-eight, who, about six months before he first saw him, noticed that he was wasting between the thumb and first finger of the right hand; he did not then notice any weakness. Since that time atrophy of the muscles has proceeded rather rapidly, the muscles chiefly involved being those of the right hand, the extensor of the right wrist, and the deltoid and triceps, but there is also some wasting of the muscles of the left hand. A very well-marked feature of the case was the fibrillary contraction of the muscles, which was present in the muscles of both arms, and also both pectorals and the scapular muscles. There were no bulbar symptoms. In addition to his muscular atrophy the patient showed exaggerated knee jerks and sometimes ankle clonus, the reflexes in his arms being also exaggerated, but beyond the facts elicited by examination the patient showed no spastic symptoms, and although at first sight the case looked like one of progressive muscular atrophy Dr. Winter thought that the name under which he had exhibited the case gave a better idea of the conditions that were found, and, in his opinion, the case tended to confirm the view that the two conditions were identical.

DR. TRAVERS SMITH showed cases of (1) progressive muscular dystrophy, (2) paroxysmal tachycardia, (3) a man who exhibited symptoms of a combination of locomotor ataxia and multiple neuritis.

These were discussed by DRs. LITTLE, CRAIG, and MOORHEAD.

Friday, December 6, 1907.

DR. A. R. PARSONS in the Chair.

Diphtheritic Fever.

SIR JOHN MOORE gave details respecting a remarkable outbreak of sore throat which had come under his observation in a large

girls' school in Dublin during the autumn of 1906. Bacteriological examination proved the outbreak to be due to an infection with a form of the Klebs-Löffler *Bacillus diphtheriæ*. The resulting illness failed to present the typical features of classical diphtheria—it might be described as “Diphtheroid,” and he had ventured to call it “Diphtheritic Fever.” [His communication is published in full at page 10].

DR. KIRKPATRICK said that sometimes ten or eleven recruits came into Steevens' Hospital in one day from the Constabulary Depôt, complaining of symptoms resembling those described by Sir John Moore. They usually got well in a short time. In no case had there been any suspicion of membrane, and bacteriological examination showed no trace of the diphtheria bacillus in many cases. The organism in the majority of cases was some form of coccus. The condition was looked upon as an epidemic of catarrh, and in no case had been seen the roseolar rash or the cervical glands materially enlarged.

DR. BURGESS said the recruits mentioned by Dr. Kirkpatrick were brought up from the country, and were not used to the ordinary hygiene. They were put on swimming lessons, and kept in the water for half an hour or more. This chilled them, and they complained of sore throats.

DR. DAY said it was not necessary to have a membrane to diagnosticate diphtheria. He had pointed out in a paper some years ago that cases having soft tonsils, coated tongue, and enlarged glands had given the diphtheria bacillus on a swab. Diphtheria was much commoner in the city than people supposed, and there were two main predisposing causes—bad teeth and constipation. The latter would explain the outbreak after the holidays. He thought the only way to get people free from the diphtheria bacillus was to give them change of air and occasional injections of say 500 units of antitoxin prior to discharge from hospital. Since the antitoxin treatment had come in, paralysis had been postponed. It was necessary to swab cases before applying any antiseptic treatment to the throat, and it was also more advisable to touch the red injected parts than to swab whatever membrane was seen. If there was nasal discharge, it was preferable to swab it than the throat.

PROFESSOR WHITE said it was well to remember that the diphtheria bacilli were exceedingly susceptible to desiccation; they died more quickly than any organism of the same degree

of virulence that he knew. Hence, in most cases that were swabbed in the membrane, it was possible that they got little away except some dry necrotic material which might contain bacilli alive and capable of reproducing themselves, but which would have died in a few hours because there was probably no moisture put in the swab. That might be the explanation of negative results of swabs taken from cases of severe diphtheria.

DR. BOXWELL said he would like to exonerate Sir John Moore and Professor White for the use of the word "attenuated" in his report. It was he, Dr. Boxwell, who had used it simply to describe a type of organism which he had often found in mild cases of sore throat. It was somewhat smaller than the typical bacillus, and in appearance like what was described as Hoffmann's bacillus. Not knowing whether it was the real diphtheria organism or not, he had called it an attenuated form.

PROFESSOR WHITE said it appeared that there was some doubt as to whether the bacilli in the cases were diphtheria bacilli or not. There was no doubt whatever that some of the cases were due to the true diphtheria bacillus. The bacillus varied extremely, and he confessed to a difficulty in distinguishing between the form spoken of as Hoffmann's and the shorter forms of the diphtheria bacillus.

THE CHAIRMAN instanced an outbreak at a school in which definite membrane appeared in some cases. It was pronounced to be undoubted diphtheria, one boy admitted having had a slight sore throat at home during the preceding holidays. On examination, diphtheria bacilli were isolated. His own practice was to have a culture made in cases of follicular tonsillitis. He would like to know if, in any of the cases which developed in the country afterwards, there was a bacteriological examination.

SIR JOHN MOORE, in reply, said that constipation was very prevalent at the time of the outbreak of diphtheria. The toilet of the mouth was carefully attended to from the outset. He had found quinine to be a powerful disinfectant of the month. In nearly all cases the rash appeared before the anti-toxin was injected. Although Dr. Boxwell had used the term "attenuated," he submitted that the country cases which followed were perfectly conclusive as to the infecting organism from a clinical standpoint. He could not say whether there had been a bacteriological examination in them.

Eye-strain as a Factor in the production of Functional Neuroses.

DR. KIRKPATRICK read a paper on this subject. He detailed several cases to show the importance of the recognition and treatment of such abnormalities in the management of patients suffering from various conditions of this kind. One such patient had complained for years of recurrent attacks of migraine, and though he made no complaint of his vision, his condition was completely relieved by the correction of some faulty muscle balance of his eyes. Cases were also quoted to show the advantage of the correction of errors of refraction in the relief of persistent headache. The necessity of a thorough examination of the eyes in the treatment of such cases was insisted on, even in spite of the absence of any complaint on the part of the patient of abnormal vision. The necessity of this was exemplified in one of the cases described, where the patient, though complaining of severe and more or less persistent headache for nearly fifteen years, resented the suggestion that the eyes were at fault. This patient was completely relieved of his headaches by the use of proper correcting glasses. At present it would seem impossible to precisely define the limits of eye-strain as a cause of disease, and, consequently, it is all the more necessary to have a thorough examination of the eyes in every case of chronic disease which does not yield readily and completely to other treatment.

Eye-strain.

MR. MOONEY, in a paper on the above subject, expressed the opinion that the relation between headaches and errors of refraction was not as fully realised by physicians as it might be. He pointed out the part played by errors of refraction, accommodation, and the balance of the extrinsic muscles of the eye in the causation of headache, migraine, giddiness and nausea, and explained how, in his opinion, headaches met with in young students are often wrongly put down to the quality or quantity of the illuminant instead of to some degree, often quite small, of astigmatism. He was in favour of correcting the smallest errors of refraction, to ascertain which the cases should be examined very thoroughly by the methods at one's disposal. The testing of the muscle balance by means of Maddox's rod test should be done in every case as a routine.

DR. DRURY quoted several cases in which attacks of migraine

had ceased after the adoption of glasses for the correction of eye-strain.

DR. HENRY said there could be no doubt that in a very considerable number of cases of neuroses the symptoms were due to some affection of the eyes, and in some cases astigmatism would be found to be the cause. His own experience was that the affection of the eye which had most effect in producing headaches was a small degree of mixed astigmatism.

MR. J. B. STORY agreed that mixed astigmatism was, perhaps, a more common cause of headaches than simple astigmatism; and he also believed that difference in muscular balance was perhaps of even greater importance in the production of migraine.

DR. KIRKPATRICK and MR. MOONEY replied.

SECTION OF OBSTETRICS.

President—E. H. TWEEDY, F.R.C.P.I.

Sectional Secretary—HENRY JELLETT, M.D., F.R.C.P.I.

Friday, November 15, 1907.

THE PRESIDENT in the Chair.

Exhibits.

DR. ALFRED SMITH exhibited two fibro-myomatous uteri with ovarian cyst attached. One generally associated with fibroid tumours of the uterus, he said, certain degenerations of the ovary, but he did not think he had seen—certainly not in two consecutive cases like those exhibited—ovarian cystomas associated with fibroid tumour.

THE PRESIDENT said there was no reason why a cyst should not grow in a woman who was already afflicted with myoma, yet he did not remember ever having seen them attached before.

DR. PUREFOY said that a few weeks ago he had removed a dermoid cyst with which was associated a fibroid uterus.

On the suggestion of DR. ROWLETTE one of the tumours exhibited by Dr. Alfred Smith was opened, and proved to be a dermoid cyst.

SIR A. V. MACAN exhibited a case of uterine carcinoma and double ovarian cystoma. He said the woman was forty-five years of age, had been married since she was fifteen, but had had no children. The changes were still regular, and, except for violent

hæmorrhages, the patient complained of nothing. On opening the abdomen an ovarian tumour was found and removed, and to his surprise he then found another. The uterus was then extirpated. Afterwards the patient got bronchitis, which gave him some anxiety; and later, out of one of the stitches, fluid stuff came like the contents of a dermoid cyst. However, she made a good recovery.

THE PRESIDENT thought it was rather fortunate for a woman who was suffering from carcinoma to get an ovarian cyst, as it might cause the diagnosis of carcinoma to be made all the earlier.

SIR A. V. MACAN, replying to a question by the President, said the patient was first curretted to make the diagnosis, and it being determined that it was carcinoma of the uterus, it came to be a question of extirpation of the vagina or the abdominal route.

SIR WILLIAM SMYLY exhibited a case of sarcoma of the uterus (?), and regretted the note of interrogation, but it was difficult to say what organ the tumour really sprang from. On October 21 he had seen the patient for the first time. She was feverish, and looked very ill. On making a bi-manual examination he found a myomatous uterus, and also a detached tumour in the abdomen. When admitted afterwards to hospital she had all the symptoms of septic fever. It was quite evident that one of the tumours was suppurating or sloughing, and that she could not live any length of time in her then condition. As a desperate resource he determined to try to extirpate the source of infection. It was generally admitted that it was better to remove a septic tumour by the vagina, as it was less likely to cause a general peritonitis or a hernia than removal by the abdominal route. The woman was unmarried, and had a narrow vagina, which presented the ordinary difficulties. After a good deal of labour morcellating the uterus he got it outside the vulva. It had been held by the tumour above, which had prevented it from coming down. To get the tumour he had, after all, to open the abdomen, and he found everything matted together. He separated the adhesions, scooped out the sloughing *débris*, and left a cavity with ragged, infiltrated walls communicating with the humus of the gut by an opening as large as a sixpence. It was evident that the malignant disease had extended from the tumour through the walls of the intestines; and it had involved so many of the coils of intestines that he now reached the climax of his woes, and found it impossible

to remove the disease. In the desperate circumstances he stitched the intestines round the cavity as well as he could, and the woman had not exhibited any bad symptoms up to that day, which was the fourteenth from the operation.

DR. HARVEY confirmed Sir William Smyly's remarks as to the difficulty of saying what the tumour really was. Histologically it was a mixed-celled sarcoma.

President's Address.

DR. HASTINGS TWEEDY in thanking the Section for electing him their President said that the position had been held in the past by men who had made the Obstetric School of Dublin famous, and that it was through the Royal Academy of Medicine in Ireland that the profession in Dublin have the opportunity of making known to their countrymen and to the world at large that their work is worthy of more than provincial fame. He complained that the Section had not of late years received the support it deserved, and it lacked the vitality of the past. This slackening of interest dated from about the beginning of the Boer War, and in his opinion might be attributed to it. The war had a most disturbing influence on men's minds, and during a period of almost daily disaster the members of this Section had no heart to attend the meetings; thus habits were formed of which the influence is still felt. Of other explanations the most plausible is that which suggests that gynaecology has ceased in its power to interest, and that as an art it has made no appreciable advance within the last decade. In combating this view he dealt with the radical changes which have been effected within the past four years. Rubber gloves are now universally worn not alone in abdominal but also in vaginal operations. The rinsing the cleansed hand in methylated spirit and the partially filling the gloves with similar fluid enables them to be readily slipped on, and secures an almost aseptic condition of their contained fluid contents, even after they have been worn during a two-hours' operation; thus injury to the glove is not fraught with fear of septic infection through oozing of its fluid contents. We now dispense with much of the elaborate ritual formerly considered necessary in hand-washing. Skin maceration in the neighbourhood of the field of operation is prevented by painting the surface over with a saturated solution of picric acid in spirit. This solution is also of great use when applied to papillary erosions of the less chronic

type. In vaginal surgery the field of operation has been rendered more sterile by the clipping of a strip of boiled Billroth tissue across the perinæum to shut off the anal region, whilst the bags which enclose the legs are now connected with an abdominal apron which prevents the operator's hands being contaminated in the event of his having to pause in the midst of an operation to make a bi-manual examination. The large semilunar incision of Strassemann provides a rapid and ready method of separating the bladder from the cervix, and performing extensive operations through this route. For vaginal fixation the older T-shaped incision is to be preferred, but here again an improved technique is adopted in that the peritoneum is now insinuated between the vaginal wall and the fixing sutures of the uterus. The technique for the cure of cystoceles and rectoceles has been much improved—in the former by tucking up the bladder and rolling it inwards on itself with fixing catgut sutures, and in the latter by joining again the fibres of the levator muscle and pelvic fascia. The vaginal operation for cancer of the uterus is much more extensive than formerly. Pus tubes are dealt with in a way that almost ensures a safe recovery. If very acute the abscess can be opened by entering the abdomen through the posterior fornix, and directly draining through this hole. If a relapse takes place the pus is rendered less septic, and the case may be considered alone amenable to the more radical operative procedures. In this eventuality he strongly advised the splitting of the uterus in two halves, the insertion of the whole hand into the abdominal cavity, the breaking down of adhesions, and the forcible dragging out of the diseased tube with its attached half of the uterus, the clamping of the tubes outside the vulva, the pushing the clamps into the abdomen, and the insertion of iodoform gauze between them (Landau's operation). Atmocausis has enabled many hæmorrhagic cases to be cured that formerly would have required removal of the uterus. Through the abdominal route pus tubes can be removed with greater safety than formerly by the plan of splitting the uterus down the centre and removing them together with that organ. Tubes affected with interstitial salpingitis are resected, and their lumens made patent. Ovaries are freely resected rather than sacrificed. Raw surfaces are covered over with peritoneum. It is now a matter of indifference (so far as the primary operation is concerned) as to whether the uterus is removed with or without its cervix. Both operations have

become easy and safe in their performance, whilst unpleasant after symptoms have been obviated by the non-removal of the ovaries. In spite of this advance the operation is less often done than formerly, because of the advantages offered by myomectomy as now performed. The uterus can be split in two halves, the myomas enucleated from its walls, and the organ again stitched up after the manner which obtains in Cæsarean section. Operative treatment for cancer of the uterus has been revolutionised. Formerly if the organ was fixed, it could not be readily pulled down, or had its cervix badly eroded, surgical relief was unobtainable. It is pleasant to contemplate that gynaecologists are no longer deterred from relieving the suffering woman, even though prolonged immunity from the disease cannot be promised. The three-layer method of suturing the abdomen has made it possible to operate without any fear of a subsequent hernial formation, and the sub-cuticular skin suture threaded through a leaden plate placed on the wound throughout its entire length has made scar deformity a negligible factor. Antistreptococcus serum (Polyvalent variety), if administered in suspected cases before symptoms have developed, provides a prophylactic agent against many forms of sepsis. Fowler's position, too, is employed from the first in these cases, and Mr. Moynihan's enthusiastic advocacy of continuous rectal irrigation on the appearance of the earliest symptoms of abdominal sepsis has in all likelihood placed in our hands another valuable therapeutic agent. He concluded by trusting he had shown that gynaecology had not stood still, but that its advance had been as great in recent years as throughout any period of its existence.

Exhibits.

DR. A. N. HOLMES exhibited cases of (a) carcinoma of ovary, and (b) cystoma of ovary, both from patients aged forty-eight, and in both of whom great difficulty was experienced in getting into the abdomen. Both patients had also made a good recovery. In the first case the woman's last pregnancy had been a year previously, and after it the menses had ceased. In the second case the woman had never been pregnant. The chief points of interest were that in the second case extensive adhesions had been set up without causing symptoms; while in the first case the symptoms had been coming on for three years, and it was curious that the disease had not spread further than it did.

SIR A. V. MACAN said the cases presented more than the ordinary difficulties, and expressed his admiration of the successful results obtained.

DR. PUREFOY said he had been indebted to Dr. Holmes for giving him the opportunity of assisting at the cases. The nature and extent of the adhesions in the first case had impressed him fully that the disease was malignant, and he was greatly surprised when Dr. Rowlette told him it was not. It was surprising also that in the second case there should have been such continuous improvement in the woman's condition. His experience of malignant ovarian tumour had been that recurrence, ending fatally, took place within a few months.

DR. ROWLETTE said that, as far as could be made out from the clinical history of the case of carcinoma, it was a case of primary carcinoma of the ovary, which was said to be a rare disease. That, however, was not the experience of the Dublin Gynæcological School. The pathology of the tumour was what was usual. It consisted of large cells without any special arrangement in glandular formation. Looking at the first case with the naked eye one would take it to be malignant, but there was some twisting of the pedicle, which led to great congestion and had been the cause of the inflammation which resulted in the adhesions. He could not offer any suggestion as to the cause of the adhesions in the other case.

DR. HENRY JELLETT said he had seen several cases in which there was no evidence clinically of any primary infection elsewhere, and he had lately seen three cases in which there was a positive primary focus elsewhere. It was very curious that if the ovary was really the seat of the primary disease the cancer should be double.

THE PRESIDENT said he was afraid that the cancerous tissue had worked itself through the adhesions, and made a permanent cure impossible—though not necessarily so.

THE PRESIDENT exhibited a uterus removed by Wertheim's operation, in which the amount of adjoining tissue taken away was greater than any he had ever seen. Wertheim said the ureter should not be disturbed from its bed. In at least one-third of his (Dr. Tweedy's) cases the cancer had got below the ureter, which had to be lifted in order to dig the cancer out. It was becoming a common thing with him to put a bullet forceps under the ureter and then to lift it up with the forceps while he took

away the cellular tissue beneath. He had frequently had the ureter lying out of its bed through its whole extent, and yet he had never had a leakage or a fistula, which showed that there was a great deal too much respect paid to the ureter.

Card Specimens.

The following card specimens were shown :—

1. THE PRESIDENT—(a) Adeno-carcinoma of body of uterus, 2 specimens ; (b) epithelioma of cervix uteri, 2 ; (c) carcinoma of ovary, 2 ; (d) ovarian cyst, 6 ; (e) fibro-myoma of uterus, 7.

2. DR. PUREFOY—(a) Dermoid ovarian cyst ; (b) uterine fibroids removed by myomectomy.

SECTION OF PATHOLOGY.

President—A. R. PARSONS, M.D., Dubl., F.R.C.P.I.

Sectional Secretary—PROFESSOR WHITE, Royal Coll. of Surgeons.

Friday, November 22, 1907.

THE PRESIDENT in the Chair.

Villous Tumour of the Bladder.

DR. BOXWELL stated that the patient from whom the specimen was taken was a young man, aged about thirty-four, who had been perfectly healthy until about twelve months previous to his admission to hospital. The chief symptoms on admission were hamaturia with pain on, and increased frequency in, micturition. The urine was found to be alkaline, full of pus ; and in addition contained triple phosphates, epithelium, and a considerable amount of blood. The appearance of the man, and the fact that he had lost his voice, suggested that the trouble was of tuberculous origin, but no tubercle bacilli could be found in the urine. He was too ill to be operated on ; and even attempts to wash out his bladder were always attended with great pain. He died a fortnight after admission to hospital. At *post-mortem* the base of the bladder was found to be occupied by several large villous masses, the largest being situated at the mouths of the ureters ; the bladder wall was thickened, and the ureters greatly dilated. The kidneys showed the ordinary septic changes following cystitis.

MR. L. G. GUNN spoke on the subject.

Carcinoma following Ulcer of Duodenum, with Secondary Deposits in Lungs.

DR. BOXWELL exhibited specimens with microscopic slides. The organs were obtained from a man aged sixty. He had been suffering for some years from attacks of jaundice, sometimes with slight vomiting, but never had much pain. An exploratory laparotomy was performed, and the gall-bladder was found to be distended, and a hard mass could be felt in the duodenum, while the pancreas was found filled with small, hard nodules. The patient made no definite progress, and died in a week. At *post-mortem* it was found that there was something like an ulcer occupying the ampulla, just at the entry of the common duct, with a fair amount of new growth of a cancerous nature around it. Nodules were also scattered through the lungs; these were found to be carcinomatous, while the nodules in the pancreas were merely necrotic masses. The liver was simply jaundiced; there were no secondary deposits in it.

Cancer of the Bladder.

MR. L. G. GUNN exhibited a specimen showing extensive cancer, filling practically the whole interior of the bladder. The patient was a man who presented all the appearance of a very acute inflammation of the bladder. When the patient was first seen the disease was too far gone to allow of operative interference beyond giving relief by draining; the tumour was then about the size of a small Tangerine orange. The man lived about two months, and in that time the bladder had filled up. The tumour was a very cellular carcinoma, and was unusual in not having any symptoms of hæmorrhage.

Thrombosis of Arm with Gangrene.

DR. O'CARROLL described a case of gangrene in a widow, aged thirty-nine, who entered hospital in July last complaining of cramps in the fingers of her left hand. The day after admission a slight bluish tinge was seen, especially about the wrist, and she was unable to lift the forearm. Nothing in her history gave any clue to the cause of the condition. Her heart was found to be rather weak, with some slight softening of the first sound. The only objective defect to be found was a small quantity of albumen in the urine. Her chest was small; she was thin, and had a ruddy blue face. The day after admission pain was complained of in the *right* hand and arm, and a slightly black hue

was found about the right wrist. Within a few days the circle moved up the left arm, while the right hand cleared up. The left hand gradually dried up, and became perfectly rigid, and in about three weeks the dryness and mummification had reached the junction of the upper and middle third of the forearm. The arm above this became swollen and tender, and presently a line of demarcation occurred, and sank in about a fortnight to a depth of about half an inch. The patient was given two or three minutes of anæsthesia, and the arm was taken off above the elbow joint. The stump healed perfectly, and she left hospital much better in general health.

MR. H. STOKES referred to a somewhat similar case.

PROFESSOR WHITE said he remembered quite well the case referred to by Mr. Stokes, which was so like that which Dr. O'Carroll had so graphically described. In it the gangrene was undoubtedly due to the condition of the vessels of the arm, which were rigid, and their lumina almost obliterated.

Sarcoma of Tibia.

DR. G. HARVEY showed a specimen of sarcoma of the tibia occurring in a married woman aged fifty-five. He exhibited at the same time several microscopic slides and X-ray photographs of the tumour. The latter showed certain points which were not evident in the specimen—viz., (1) that the fibula was free from the growth, (2) that there was no great expansion of the medullary cavity, but (3) that there was great rarefaction of the head of the tibia, and (4) that the articular surface of the tibia was enlarged at its external margin. The growth did not appear to infiltrate the muscles very much, but rather pushed them in front of it. Microscopically, the tumour was in parts an ossifying chondrosarcoma. In other portions round cells in alveolar grouping were to be seen. Two interesting questions arose: First, was this alveolar arrangement due to a segregation of cells into cartilage spaces, with partial absorption of the cartilage? and might this be the general explanation of alveolar sarcomas, using the term in the descriptive sense? Second, did the tumour start in the centre of the bone or outside? From the appearances of the radiograms in conjunction with the fact that the tumour cells appeared to be grouped about the perichondrium, he inclined to the view that the growth originated outside the bone, probably from the cartilage of the joint.

PROFESSOR WHITE said he thought the appearances seen in one of the X-ray photographs were strongly in favour of the view that the tumour started inside the bone. The upper portion of the internal aspect of the tibia was completely destroyed, which simply meant that the tumour in making its way out destroyed the bone. The so-called expansion of bone simply meant that while the bone inside was being infiltrated and destroyed new bone was being formed outside. A time always arrived when the new bone was not formed in sufficient quantity to cover the more rapidly growing tumour.

MR. L. G. GUNN also spoke, and DR. HARVEY replied.

Laryngeal Specimens.

PROFESSOR WHITE showed and demonstrated a few interesting old specimens from the College of Surgeons' Museum.

(a) Cases of Hanging.

In two specimens obtained about eighty years ago the same lesions were present. In each case the thyroid cartilages and os hyoides are widely separated from each other—the intervening muscles, &c., having been almost completely torn across. The epiglottis was torn away from the rest of the larynx, and ascended with the os hyoides and tongue into the floor of the mouth. In Vol. 5 of the old *Dublin Hospital Reports* a short description of these specimens is given. It would appear that the omo-hyoid, sterno-hyoid, and sterno-thyroid muscles were lacerated in such a fashion that only a few shreds held the torn portions together. The right sterno-mastoid was ecchymosed, contused and broken; while the left sterno-mastoid was but slightly bruised. The rope knot was to the left side. The skin alone intervened between the rope and the interior of the pharynx. The cervical vertebræ and spinal cord were uninjured.

(b) Suffocation.

The specimen in this case showed a large lump of meat, almost three inches in length, firmly wedged in the pharynx and œsophagus, and completely closing the superior opening into larynx.

(c) Ulceration of Tracheotomy Tube into Aorta.

No history was attached, but apparently the condition for which the operation of tracheotomy was performed was an acute one,

as no disease of the larynx is recognisable. At a period long after the operation, but sometime antecedent to death, some unskilful person attempted to replace the tube, but thrust it instead between the sternum and trachea, with the result that ultimately the lower end of tube ulcerated into arch of aorta. Judging from the appearance of the wound in the trachea, some time must have elapsed before this occurred. From the time the tube was put in the false position the patient must have breathed in the ordinary way, as the tracheal wound was quite blocked by the tube in front.

THE MAGNET IN OPHTHALMIC THERAPEUTICS.

THE attention of ophthalmologists has recently been called to the successful employment of the electro-magnet in the removal of fragments of iron from the eye. It is now twenty-seven years since Dr. Hirschberg first employed this method of extraction, and the retrospect of its use (*Berl. klin. Woch.*, Feb. 25, 1907), its gratifying success, and the gradual improvement in the mechanism of its adaptation, gives him the truest data for an honest professional pride in this connection. The association may make it worth recalling—to those who like to contemplate the gradual (and often very tortuous and painful) steps of the advancement of surgical methods and therapeutics—a case of the utilisation of the magnet in ophthalmo-ferric manipulation by Gulielmus Fabricius Hildanus, “the Father of German Surgery.” The case is reported in his great folio thesaurus of matters surgical (*Cent. 5. Observ. Chirurg., Obs. 21*); and is rather neatly referred to by the highly censorious Gideon Harvey, Dr. of Phys. and Phil., in his *Archelogia Philosophica Nova, or New Principles of Philosophy*—where he tells us that the great Teutonic surgeon “Rehearses a famous cure luckily done by it by the advice of his Wife (at a dead lift I suppose) upon a Merchant, who was tormented with a miserable pain in one of his eyes, caused by a little piece of steel that was accidentally pierced into it. All kind of Anodynes were applied, but to no purpose, at last the Loadstone was thought upon, which he caused to be held near to the eye, whereby it was soon drawn out.” Harvey’s “quaint and curious volume” was published in 1682.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, November 30, 1907.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending November 30, 1907, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 22.3 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,117,547. The deaths registered in each of the four weeks ended Saturday, November 30, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c	Week ending				Average Rate for 4 weeks
	Nov. 9	Nov. 16	Nov. 23	Nov. 30			Nov. 9	Nov. 16	Nov. 23	Nov. 30	
22 Town Districts	20.0	21.6	19.4	22.3	20.8	Lisburn -	4.5	—	18.2	13.6	9.1
Armagh -	13.7	—	6.9	13.7	8.6	Londonderry	12.3	17.2	20.9	19.6	17.5
Ballymena	14.4	19.2	4.8	23.9	15.6	Lurgan -	8.9	17.7	4.4	13.3	11.1
Belfast -	20.4	24.8	23.1	25.8	23.5	Newry -	8.4	21.0	29.4	25.2	21.0
Clonmel -	25.6	15.4	10.3	25.6	19.2	Newtownards	22.9	11.4	34.3	22.9	22.9
Cork -	19.2	21.2	17.1	13.7	17.8	Portadown	5.2	5.2	10.3	10.3	7.8
Drogheda -	20.4	24.5	12.3	16.3	18.4	Queenstown	—	19.8	—	13.2	8.3
Dublin (Reg. Area)	22.8	21.4	18.4	21.6	21.1	Sligo -	14.4	33.6	—	4.8	13.2
Dundalk -	19.9	16.0	23.9	19.9	19.9	Tralee -	5.3	26.4	21.1	37.0	22.4
Galway -	35.0	11.7	23.3	38.8	27.2	Waterford	25.3	11.7	19.5	17.5	18.5
Kilkenny -	14.7	9.8	—	39.3	16.0	Wexford -	4.7	9.3	9.3	14.0	9.3
Limerick -	19.1	34.2	23.2	24.6	25.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, November 30, 1907, were equal to an annual rate of 1.4 per 1,000, the rates varying from 0.0 in eleven of the districts to 10.3 in Clonmel—the 5 deaths from all causes for that district including one from measles and one from *pyrexia* (origin uncertain). The 183 deaths from all causes in Belfast include 8 from measles, 2 from diphtheria, one from enteric fever, 5 from diarrhoeal diseases, and 2 from cerebro-spinal fever. Of the 16 deaths from all causes for Londonderry one was due to whooping-cough. The 18 deaths from all causes for Limerick include one from measles and one from diarrhoea; and among the 10 deaths from all causes for Galway is one from *pyrexia* (origin uncertain).

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 390,691, that of the City being 300,850, Rathmines 35,606, Pembroke 27,854, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, November 30, 1907, amounted to 238—117 boys and 121 girls; and the deaths to 175—87 males and 88 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 23.4 in every 1,000 of the population. Omitting the deaths (numbering 13) of persons admitted into public institutions from localities outside the Area, the rate was 21.6 per 1,000. During the forty-eight weeks ending with Saturday, November 30, the death-rate averaged 24.2, and was 1.0 below the mean rate for the corresponding portions of the ten years, 1897–1906.

The deaths registered in the week ended Saturday, November 30, numbered 175, and included one from whooping-cough and 3 deaths from diarrhoeal diseases, all of the latter being of children under 5 years of age. The deaths of 3 children under 5 years of age were attributed to *gastro-enteritis*. In each of the 3 weeks preceding, deaths from whooping-cough were 2, one, and 0; and deaths from diarrhoeal diseases were 4, 3, and 7, respectively.

There was one death from influenza, and varicella caused the death of one infant aged 8 months.

Seven deaths were attributed to broncho-pneumonia and 7 deaths to *pneumonia* (not defined).

The deaths from all forms of tuberculous disease, which, in the 3 weeks preceding, were 33, 29, and 33, respectively, declined, in the period under notice, to 22. This last figure includes 10 deaths from tubercular phthisis, 6 deaths returned as from *phthisis*, one death from tubercular meningitis, one death from *tabes mesenterica*, and 4 deaths from other forms of the disease.

There were 4 deaths from carcinoma and 4 deaths from cancer (undefined).

The deaths of 2 infants, prematurely born, were registered.

Diseases of the brain and nervous system accounted for the deaths of 11 persons, including those of 4 infants under one year of age from *convulsions*.

Twenty-six deaths were ascribed to diseases of the heart and blood vessels, and bronchitis caused 28 deaths.

The deaths of 2 persons were attributed to accidental causes.

In 9 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 7 children under 5 years of age (including 6 infants under one year old) and the deaths of 2 persons aged 60 years or upwards.

Sixty-one of the persons whose deaths were registered were under 5 years of age (39 being infants under one year, of whom 12 were under one month old), and 59 were aged 60 years and upwards, including 28 persons aged 70 and upwards, of whom 8 were octogenarians, and one (a female) was stated to have been aged 90 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary

Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended November 30, 1907, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Group	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Fuermpl Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Total
City of Dublin	Nov. 9	-	*	*	8	-	-	7	1	1	8	13	-	*	*	*	36
	Nov. 16	-	*	*	4	-	-	3	-	5	10	10	-	*	*	*	32
	Nov. 23	-	*	*	5	-	-	5	-	-	5	4	-	*	*	*	19
	Nov. 30	-	*	*	4	-	-	4	-	2	5	18	-	*	*	*	33
Rathmines and Rathgar Urban District	Nov. 9	-	*	*	1	-	-	-	-	-	1	-	-	*	*	*	2
	Nov. 16	-	*	*	4	-	-	1	-	-	-	-	-	*	*	*	5
	Nov. 23	-	*	*	1	-	-	-	-	-	-	1	-	*	*	*	2
	Nov. 30	-	*	*	-	-	-	1	-	1	-	1	-	*	*	*	3
Pembroke Urban District	Nov. 9	-	-	-	-	-	-	-	-	-	4	1	-	*	1	-	6
	Nov. 16	-	2	-	3	-	-	-	-	1	1	1	-	*	-	-	8
	Nov. 23	-	-	1	1	-	-	-	-	-	1	1	-	*	-	-	3
	Nov. 30	-	2	2	-	-	-	-	1	-	2	2	-	*	-	-	9
Blackrock Urban District	Nov. 9	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	Nov. 16	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Nov. 23	-	*	*	-	-	-	1	-	-	-	-	-	*	*	*	1
	Nov. 30	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
Kingstown Urban District	Nov. 9	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Nov. 16	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Nov. 23	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Nov. 30	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
City of Belfast	Nov. 9	-	*	*	7	-	-	6	-	10	8	12	-	*	*	4	47
	Nov. 16	-	*	*	16	-	-	1	-	2	10	6	1	*	*	2	38
	Nov. 23	-	*	*	9	-	-	5	1	5	3	7	-	*	*	5	35
	Nov. 30	-	*	*	9	-	-	10	-	5	6	7	-	*	*	5	42

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended November 30, 1907, 2 cases of measles were admitted into hospital, 2 were discharged, and 7 cases remained under treatment at its close.

Six cases of scarlet fever were admitted into hospital, 7 were discharged, and 38 cases remained under treatment at the close

of the week. This number is exclusive of 12 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

Ten cases of diphtheria were admitted into hospital, 4 were discharged, and 30 patients remained under treatment at the close of the week.

Eight cases of enteric fever were admitted into hospital during the week, 7 were discharged, and 51 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 12 cases of pneumonia were admitted into hospital, 4 were discharged, there was one death, and 30 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, November 30, in 76 large English towns, including London (in which the rate was 16.8), was equal to an average annual death-rate of 16.5 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 19.3 per 1,000, the rate for Glasgow being 21.4 and for Edinburgh 15.2.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended November 30. From this Report it appears that of a total of 80 cases notified 38 were of scarlet fever, 12 of diphtheria, 8 of erysipelas, and one of membranous croup. Among the 380 cases of infectious diseases in hospital at the close of the week were 206 cases of scarlet fever, 30 of measles, 55 of diphtheria, 15 of whooping-cough, 5 of enteric fever, 9 of erysipelas, and 2 of membranous croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. $53^{\circ} 20'$ N., Long. $6^{\circ} 15' W.$, for the Month of November, 1907.

Mean Height of Barometer,	-	-	29.928 inches.
Maximal Height of Barometer (30th, at 9 a.m.),	30.487	„	
Minimal Height of Barometer (26th, at 9 a.m.),	28.917	„	
Mean Dry-bulb Temperature,	-	-	44.0° .
Mean Wet-bulb Temperature,	-	-	42.7° .
Mean Dew-point Temperature,	-	-	41.1° .
Mean Elastic Force (Tension of Aqueous Vapour),			.262 inch.
Mean Humidity,	-	-	90.0 per cent.
Highest Temperature in Shade (on 4th),	-		56.1° .
Lowest Temperature in Shade (on 25th),	-		29.8° .
Lowest Temperature on Grass (Radiation) (25th),			24.5° .
Mean Amount of Cloud,	-	-	58.5 per cent.
Rainfall (on 14 days),	-	-	2.584 inches.
Greatest Daily Rainfall (on 26th),	-	-	.528 inch.
General Direction of Wind,	-	-	W.

Remarks.

A cool, comparatively quiet November, notable for a freedom from high winds in the Dublin district. The rainy period which had lasted through October drew to a close on the 4th, after which date four consecutive rainless days were recorded. Comparatively fine autumnal weather held during the second week. Clouds spoiled the view of the transit of Mercury across the sun on Thursday, the 14th. The weather of the third week was cold and changeable, but on the whole it was fine, and the rainfall was slight. At 8 a.m. of Tuesday, the 19th, the barometer ranged from 28.23 inches at Reykjavik on the south-west coast of Iceland to 30.9 inches and upwards over central Russia. During the last week a series of deep atmospheric depressions came in from the Atlantic, causing heavy rains in all parts of the British Islands, sleet and hail in the northern districts.

In Dublin the arithmetical mean temperature (44.6°) was 0.7° below the average (45.3); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 44.0° . In the forty-three years ending with 1907, November was coldest in 1878 (M. T. = 38.2°), and in 1870 (M. T. = 42.2°); warmest in 1899 (M. T. = 50.7°), and in 1881 (M. T. = 50.3). In 1906 the M. T. was 47.6° .

The mean height of the barometer was 29.928 inches, or 0.068 inch above the corrected average value for November—namely, 29.860 inches. The mercury rose to 30.487 inches at 9 a.m. of the 30th, having fallen to 28.917 inches at 9 a.m. of the 26th. The observed range of atmospheric pressure was, therefore, 1.570 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.0° , or 5.4° below the value for October, 1907. The arithmetical mean of the maximal and minimal readings was 44.6° , compared with a thirty-five years' (1871-1905) average of 45.3° . On the 4th the thermometer in the screen rose to 56.1° —wind, S.S.W.; on the 25th the temperature fell to 29.8° —wind, W. The minimum on the grass was 24.5° on the 25th.

The rainfall was 2.584 inches on 14 days—the rainfall and rainy days were below the average. The average rainfall for November in the thirty-five years, 1871-1905, inclusive, was 2.720 inches, and the average number of rainy days was 17. In 1888, 6.459 inches fell on 26 days. On the other hand, the rainfall in 1896 was only .664 inch on 9 days. In 1905 the rainfall was 3.551 inches on 19 days; in 1906, it was 1.562 inches on 17 days.

High winds were noted on only 3 days, and never attained the force of a gale. The atmosphere was more or less foggy in Dublin on the 4th, 7th, 8th, 9th, 17th, 18th, 27th, and 30th. Solar halos were seen on the 17th and 20th. Lunar halos appeared on the 15th, 17th, and 22nd. There were lunar coronas on the 16th and 19th. There was a lunar rainbow on the evening of the 16th.

The rainfall in Dublin during the eleven months ending Nov. 30th amounted to 24.845 inches on 196 days, compared with 15.378 inches on 141 days during the same period in 1887, 24.086 inches on 156 days in 1901, 27.812 inches on 190 days in 1902, 30.015 inches on 212 days in 1903, 20.678 inches on 172 days in 1904, 24.013 inches on 180 days in 1905, 21.001 inches on 185 days in 1906, and a thirty-five years' average of 25.750 inches on 181 days.

At the Normal Climatological Station in Trinity College, Dublin, Mr. William J. Good reports that the mean height of the barometer was 29.927 inches, the range of atmospheric pressure being from 30.484 inches at 9 a.m. of the 30th to

28.924 inches at 9 a.m. of the 26th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.8° . The arithmetical mean of the daily maximal and minimal temperatures was 45.3° . The screened thermometers rose to 57.3° on the 4th, and fell to 31.2° on the 25th. On the 19th the grass minimum was 23.7° . On the 1st the black bulb *in vacuo* rose to 77.0° . Rain fell on 13 days to the amount of 2.478 inches, the greatest fall in 24 hours being .523 inch on the 26th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 33.9 hours, of which 4.4 hours occurred on the 10th. The mean daily sunshine was but 1.1 hours. The mean temperature of the soil at 9 a.m. was 45.7° at a depth of 1 foot; at a depth of 4 feet it was 49.4° at 9 a.m.

At Cloneevin, Killiney, Co. Dublin, Mr. Robert O'B. Furlong, C.B., states that 2.41 inches of rain fell on 16 days, compared with a twenty-two years' (1885-1906) average of 2.975 inches on 16.2 days. The maximal fall in 24 hours was .57 inch on the 27th. Since January 1, 1907, 23.71 inches of rain have fallen at this station on 182 days. The corresponding figures for 1901 were 26.10 inches on 161 days; 1902, 30.18 inches on 178 days; 1903, 30.05 inches on 203 days; 1904, 20.39 inches on 166 days; 1905, 25.95 inches on 167 days; and 1906, 20.22 inches on 183 days.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.895 inches on 14 days. Of the total quantity .790 inch fell on the 27th. From January 1st, 1907, up to November 30th, rain fell at Greystones on 167 days to the amount of 28.025 inches. The corresponding figures for 1901 were 31.425 inches on 147 days; 1902, 37.101 inches on 157 days; 1903, 33.070 inches on 193 days; 1904, 23.572 inches on 160 days; 1905, 27.515 inches on 150 days; and 1906, 22.628 inches on 140 days.

Dr. Francis P. Leyland reports a rainfall of 2.819 inches on 16 days at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow. The greatest fall in 24 hours was .612 inch. on the 25th. The rainfall to November 3 at this station amounts to 29.547 inches on 190 days. The mean temperature for the month was 48.3° , the maximum being 54.4° on the 2nd and 14th, and the minimum 34.2° on the 25th.

The rainfall recorded at Clonsilla, Greystones, by Dr. Arthur

G. Price was 2.67 inches on 13 days. The greatest fall in 24 hours was .76 inch on the 27th.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 19 days to the amount of 3.10 inches, the greatest measurement in 24 hours being .80 inch on the 1st. In November, 1901, the rainfall was 3.53 inches on 8 days; in 1902, it was 4.61 inches on 17 days; in 1903, 1.93 inches on 14 days; in 1904, 1.26 inches on 11 days; in 1905, 4.35 inches on 22 days; and in 1906, 1.60 inches on 15 days. The mean temperature in the shade was 44.6° , the range being from 54° on the 1st, 2nd, 4th and 14th to 32° on the 25th and 30th.

At White Cross, Stillorgan, Co. Dublin, Miss Muriel E. O'Sullivan measured 2.910 inches of rain on 16 days. The heaviest rainfall in 24 hours was .580 inch on the 1st, but .540 inch fell on the 27th.

Dr. Christopher Joynt, F.R.C.P.I., registered 2.810 inches on 16 days at Leeson Park, Dublin. The maximum in 24 hours was .550 inch on the 1st. In November, 1905, 3.795 inches of rain had been recorded at this station, and in 1906, 1.485 inches.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 2.584 inches on 13 days—the greatest fall in 24 hours being .515 inch on the 27th. The mean shade temperature was 40.6° , the extremes being—highest, 53.5° on the 14th; lowest, 24° on the 24th.

In the City of Cork Mr. William Miller returns the rainfall at 3.93 inches, or .05 inch over the average for November. There were 16 rainy days. The heaviest fall in 24 hours was .93 inch on the 3rd. Up to November 30th, the rainfall of 1907 amounted to 30.54 inches, that is 3.41 inches less than the average for eleven months of the year.

At Dunmanway Rectory, Co. Cork, the Rev. Arthur Wilson, M.A., registered a rainfall of 4.29 inches on 19 days, the heaviest falls in 24 hours being .90 inch on the 1st, .78 inch on the 25th, and .56 inch on the 27th. Thunder and lightning occurred on the evening of the 26th.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 16 days to the amount of 2.362 inches, the largest measurement in 24 hours being .590 inch on the 27th. The total amount of sunshine was 67.8 hours, the most in one day being 6.7 hours on the 18th.

PERISCOPE.

THE LEES AND RAPER MEMORIAL LECTURE, 1908.

THE Eighth Lees and Raper Memorial Lecture will be delivered in the Town Hall, Oxford, by Mr. William M'Adam Eccles, M.S., F.R.C.S., on Tuesday, February 4, 1908, at 8 p.m. The subject chosen is "The Relation of Alcohol to Physical Deterioration and National Efficiency." The chair will be taken by the Regius Professor of Medicine in the University of Oxford—Professor William Osler, F.R.S., M.D., LL.D., D.Sc. The subject is one to which Mr. Eccles has devoted much attention. He gave evidence in reference to Physical Deterioration before the Inter-Departmental Committee. Underlying the question are data of grave national importance. The lecture will be illustrated by the lantern, and should be of considerable value, both from its nature and from its deliverance under the auspices of our oldest University. Considerable interest in the lecture is being taken in the University itself, and many of the leading men in the Colleges are lending their aid to promote its success. It is to be hoped that railway facilities may be granted, and that many may care to attend even from a distance. Further information and invitation cards can be obtained from the Hon. Secretary to the Trustees, Mr. John Kempster, Broad Sanctuary Chambers, 20 Tothill Street, Westminster, S.W.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College, held on December 16th, 1907, the following gentlemen were elected Fellows:—Bryan Foster, M.B., Ch.B. Melb., Hawthorn, Melbourne; William James France, L.R.C.S.E., Bury, Lancashire; Henry Goodwyn, L.R.C.S.E., Bovey Tracey, S. Devon; Henry John Lotz, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Camb., Freemantle, W. Australia; Raymond Herbert Price, M.B., C.M. Edin., Captain Indian Medical Service; John Fordyce Robertson, M.D. Edin., Lerwick, Shetland; Cyril Shellshear, M.B., C.M., Syd., London, W.; Fred Stoker, M.B., Ch.B. Durh., Wallsend-on-Tyne; Herbert Pank Thompson, M.D. Edin., Edinburgh; Walter Woodward White, M.D., C.M. McGill, L.R.C.S.E., St. John, N.B., Canada; David Percival Dalbreck Wilkie, M.B., Ch.B. Edin., Ardmore, Kirriemuir; and James Wilson, M.B., Ch.B. Aberd., Edinburgh.

A NEW INDUCTION COIL FOR RÖNTGEN-RAY WORK.

THE Munich *Medizinische Wochenschrift* for October 15 contains a description of an induction coil for Röntgen-ray work, constructed by Dr. J. Rosenthal, which is capable of producing a photograph of a man's thorax in two seconds with the tube 50 centimetres away. This certainly brings us nearer to the much desired Röntgen-ray kinematograph of the action of important organs like the heart, and it is to be hoped that Dr. Rosenthal will succeed in still further reducing the time of exposure. One feature of his coil is the division of both primary and secondary into two or more parts, which can be placed in series or in parallel with each other without stopping the coil.—*Nature*, Nov. 21, 1907.

TAR IN CHRONIC WINTER COUGH.

SIR R. DOUGLAS POWELL, BART., K.C.V.O., M.D., in a lecture on Senile Respiratory Disorders, says:—"In chronic winter cough with copious expectoration tar preparations are very good. Two especially I wish to mention—One is Eau de Goudron, which, in Vichy or Ems water, I have often found valuable in cases of bronchorrhœa; the other is liquor picis aromaticus (Bell), which contains about seven and a half grains of tar to the drachm. A good prescription which hides the nauseous taste of the tar and is also stimulative and carminative is:—R. Liq. picis aromat. (Bell), ʒij.; Glycerini, ʒiv.; Ext. glycyrrhizæ liquidi, ʒiss.; Sp. ammon. aromat., ʒiv. vel ʒvj.; Tr. cardamom. co., ʒiv. vel ʒvj.; Aq. chloroformi, ad ʒviiij. Sig.—A sixth part thrice a day. I need not add that climatic treatment is of value."—*The Hospital*, Dec. 7, 1907.

ADDISON'S DISEASE IN CHILDREN.

ACCORDING to Felbebaum and Furstthandler, Addison's disease is very rare in childhood. The sexes are affected about equally, and the usual age is between ten and thirteen years. The typical form is characterised by its long duration, pigmentation, increasing weakness, and gastric symptoms. Occasionally the disease runs an acute course, and the skin signs may be absent; in such cases the diagnosis is seldom made before the necropsy. When prolonged, the disease may last for years, and be characterised by occasional periods of intermission, death finally occurring with delirium and convulsions. The commonest lesion found is tuberculosis of the supra-renal glands, but cystic fibrous degenera-

tion, and, more rarely, carcinomatous growths, have been recorded.—*The New York Medical Journal*, Aug. 10, 1907, and *The British Journal of Children's Diseases*, Dec., 1907.

CIRRHOSIS OF THE LIVER FOLLOWING SCARLET FEVER.

BINGEL (*Jahresbericht für Kinderheilkunde*, Heft 65) draws attention to the importance of scarlet fever as a cause of cirrhosis of the liver in children. In several fatal cases of scarlet fever in which the liver was examined the author found a more or less well-marked small round-celled infiltration in the portal spaces. In places there were patches of necrosis and of cloudy swelling of the liver cells. The necrotic areas were found to be gradually replaced by connective tissue, and to give rise to a genuine cirrhosis. Regeneration of the cells in some places, however, was inferred from the fact that at the periphery of some of the necrosed patches very large multinucleated liver cells were observed with an increase in the number of the smaller bile-ducts.—Abstract by T. R. Whipham, in *The British Journal of Children's Diseases*, Dec., 1907.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

The "Worth" Toffee.

THERE is an instinct in human nature which craves for sweetness, and it is legitimate to indulge that instinct in moderation. But there are "sweets" and "sweets"—a few are wholesome, many are very much the reverse. To the former class the "Worth" Toffee belongs. We have tried it, and can recommend it as a real toffee, delicious to the palate. It is prepared by E. Worth, confectioner, of 95 Gathorne Street, Roundhay Road, Leeds, and is put up in small slabs packed in substantial tin boxes. This wholesome sweetmeat has been awarded a Diploma of Merit, London, 1903; Gold Medals, Leeds and Hull, 1904; and a Silver Medal, London, 1904. We may remind our readers that good toffee ranks as a food, since it contains both carbohydrate in the form of cane sugar, and fat in the form of butter.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

FEBRUARY 1, 1908.

PART I.

ORIGINAL COMMUNICATIONS.

ART. III.—*The Future Teaching of Practical Midwifery.*^a

By SIR WILLIAM SMYLY, M.D. ; Ex-President of the Royal College of Physicians of Ireland.

I HAVE been invited to open a discussion upon the recommendations of the General Medical Council with regard to education in midwifery, and especially as regards the applicability of those recommendations to the teaching of midwifery in Ireland.

In the first place, then, I would call your attention to the circumstances which have led up to this action on the part of the General Medical Council. The commencement was, without doubt, the discovery by Semmelweiss of the true nature of puerperal fever, by Pasteur of its causation, and by Lord Lister of how it could be prevented ; in consequence of which this scourge has been practically banished from our lying-in hospitals. It was naturally anticipated that a similar result would follow in private practice, but this anticipation has so far not been realised. Hegar was, I think,

^a Read in the Section of Obstetrics in the Royal Academy of Medicine in Ireland, Friday, December 13, 1907. [For the discussion on this communication see page 136.]

the first to call attention to this lamentable fact, and he attributed it to the increased number of operations; so that what had been gained by antiseptics had been lost through meddlesome interference. In these countries Dr. Boxall showed that, from the returns of the Registrar-General for England, it appeared that not only had there been no improvement in regard to the mortality from septic infection in child-bed, but actually the reverse. The numerous papers and voluminous correspondence in medical and other journals which this statement provoked produced a profound impression in England, the outcome of which has been the Midwives Act and the efforts of the General Medical Council to improve the education of students in midwifery, which we have now to discuss. Unfortunately in this country the matter has aroused but little interest, and those who have shown any interest in it have been so divided in opinion that Ireland has been excluded from the Midwives Act, to our great injury and loss. Having failed, then, to secure any improvement with regard to midwives, I most sincerely hope that we shall not be found equally remiss with regard to our medical practitioners, for, as Dr. Boxall has shown, the state of affairs with regard to puerperal mortality is worse with us than it is in England.

The recommendations of the General Medical Council must be considered in two aspects: first, from the educational side, and secondly, as regards examination. From both these aspects the Council has been hampered by trying to reconcile what is desirable with what is possible. In England the opportunities for the teaching of practical midwifery are of the most meagre description. In London, for example, there is only one lying-in hospital open to medical students, and even there, where the course is strictly limited to three months, a very small proportion of the students can be provided for; and when every available source of practical instruction has been exhausted, a large body of the students still remains unprovided for. This is evident in the replies sent by the teaching bodies to the inquiries of the General Medical Council. The Middlesex Hospital, for example, clearly

states "that the difficulties in carrying out the recommendation that students should previously have attended the indoor practice of a lying-in hospital or the lying-in wards of a general hospital are at the present time insuperable." University College, in reply to the question, "Is it, in your opinion, possible at the present time to arrange for every student to attend for one month the practice of a lying-in hospital or the lying-in wards of a general hospital before attending or conducting twenty labours?" answered "No," and added: "The Committee further thinks that a month is a longer period of time than is actually necessary to devote to attendance in a lying-in hospital or ward, and that a fortnight would be sufficient." Under such circumstances the General Medical Council found itself forced to make very moderate demands upon students with regard to the practical study of midwifery, and their modest recommendations are, in my opinion, not only the best that could be recommended in England, but would seem to be too good to be carried out in practice there.

But when we consider their application to this country, with its great lying-in hospitals, with their ample supply of material, and large and efficient staffs of highly-trained teachers, it would seem to be an absurd retrogression to adopt any of the recommendations of the General Medical Council, for I have not the slightest hesitation in stating that six months' attendance on the practice of one of our large maternity hospitals is far more likely to produce experienced obstetric practitioners than would the adoption of any of the recommendations of the General Medical Council.

How is it then that, in spite of superior advantages, our results, as pointed out by Dr. Boxall, are so bad? I cannot here refer to the handy woman, but must confine my remarks to our medical students; and, in so far as the fault can be brought home to them, I fear it is the old difficulty with regard to a horse which has been brought to the water. Our ancestors asserted that this difficulty was insurmountable, and that we could not make him drink. But surely, in the Twentieth Century, that is not so, and the difficulty could be overcome either by forcing the fluid down his throat or by

developing a thirst that would compel him to drink of his own accord. And similarly with our medical students, we can either compel them to attend a certain number of patients or demonstrations or we can arouse in them a desire to study practical midwifery. The former is the method at present in vogue: we compel the student to attend a certain number of confinements, a few of which he personally conducts, and that is all. Now, in considering the practical value of this method, let us imagine for a moment its adoption in the practical teaching of medicine or surgery. Supposing, for example, that the only practical work in these departments consisted in the examination of a score of people, the majority of whom were in perfect health, what would be the result as regards the returns of the Registrar-General when these gentlemen entered upon practice? With regard to obstetric practice, we have in this country ample provision for supplying skilled practitioners, and if the result is otherwise, it must be because they do not avail themselves of those opportunities. In fact, they seem to have no appetite for such study.

This brings me to the second method—the creation, namely, of a desire to study practical obstetrics and gynaecology. To the student, the all-important thing is to pass his examinations—to the ambitious to pass with distinction; but to every man to pass. And he has a right to believe that his course of study and examination has been so planned and arranged for him that by following it he will find himself at the end in the best position to ensure success in his professional life. Now, what is that position, so far as it is indicated by the examinations in practical clinical work? It is that the diseases of the eye are the all-important group. In all other subjects, not excepting obstetrics, clinical work is of less account, and of no practical importance whatever. A theoretical knowledge of midwifery is of course required, but, so far as practical work is concerned, he might, so far as his examination goes, have ignored it altogether.

Now, I think that in this respect the recommendations of the General Medical Council are deserving of the highest

praise, and I hope will be carried into practice. They advise that a genuine clinical and practical examination in midwifery and gynæcology should be instituted by all qualifying bodies.

Well, now, what are we going to reply to these suggestions? As to the value of a practical clinical examination, no one can have a second opinion; but as to the possibility of carrying it out, there is ample room for discussion. There are certain inherent difficulties which have to be surmounted. I say have to be surmounted, because I earnestly beseech of you, now that an opportunity has been afforded such as we have never had before, to improve the practical teaching of midwifery and gynæcology, not to turn your backs upon it and think it a thing impossible. It has been done in Edinburgh, where they have more students and less material than we have in Dublin. Can we not do what they have done? Those who are responsible for the conjoint examinations of our Royal Colleges have asked for suggestions. I can myself give them two, and I daresay, and hope, that better ones may be brought forward in this debate; but my suggestions are these:—

1. If it is thought desirable that every student should have a practical examination in midwifery and gynæcology—for, observe that the Council does not suggest the former only—then by all means let us agree and try to carry it out; there would be no lack of material. But the chief objection I have to this plan is a want of proportion. Why should every student be examined upon one organ, be it the uterus or the eye, and not on all? If every student is to have a practical clinical examination upon the female pelvic organs, why should not the same rule hold good with regard to those of the male? If this is to be the rule, then should he not in every case be examined practically upon the diseases of the brain, of the spinal cord and nerves, the heart and vascular system, the respiratory, the digestive, the lymphatic, urinary systems, muscles, bones, and everything else? This is a *reductio ad absurdum*, but to my mind the absurdity lies in the present arrangement, where every student is examined upon the eye and its diseases, and none of them upon the

female pelvic organs. Can anybody tell me why every student is examined upon the eye?

2. My second suggestion, which I think is the more reasonable and practicable, is that the female pelvic organs, with their varying physiological and pathological conditions, should be placed on the same level as other organs, and that a student should feel that, as regards practical work, his knowledge of them will be as useful in passing his examinations as would be a similar knowledge of the other organs of the body, and that he should be as liable—but not more so—to a practical examination upon one as upon another organ. At present men are examined on two or more medical and surgical cases; would there be any great difficulty in a certain number of candidates being selected by ballot to be examined clinically on one obstetric or gynæcological case, instead of one of the medical or surgical cases and in some instances to substitute these subjects for ophthalmology? But these are only suggestions of detail; the all-important point is, are we to have a clinical examination or are we to continue in the old groove which has resulted in discredit to our profession and disaster to lying-in women?

ART. IV.—*Acetonæmia*.^a By H. BROUGHAM LEECH, M.D.
Univ. Dub.

“ACETONÆMIA,” or acidosis, is the name given to a condition of acid poisoning due to acetone or its immediate precursor, diacetic acid. Acetone, β -oxybutyric acid and aceto-acetic acid may all occur in the urine. The relationship existing between them will be seen from the following formulæ:—

β -oxybutyric acid = $\text{CH}_3 \text{CHOH CH}_2 \text{COOH}$.

Aceto-acetic acid = $\text{CH}_3 \text{COCH}_2 \text{COOH}$.

Acetone = $\text{CH}_3 \text{COCH}_3$.

β -oxybutyric acid is formed, first, possibly by the destruction of proteids; it then becomes oxidised, yielding aceto-acetic acid, which is decomposed into acetone. The source

^a Being a Thesis for the Degree of M.D. in the University of Dublin, December, 1907.

of acetone is still a disputed question, but of late most writers believe that it is derived from the abnormal metabolism of fats.

Schwarz, who has made an extensive study of the subject, believes "that the destruction of body fat is the cause of the excretion of acetone bodies in various conditions, such as malignant disease, acute infectious diseases, and conditions associated with gastric disturbances." It has been proved that if a healthy man starve himself for a certain time he begins to pass acetone in his urine, probably from the destruction of his body fat. Acetone can also be detected in the urine of patients suffering from diseases necessitating starvation, or in those who have had severe diarrhoea and vomiting, although they may not exhibit actual symptoms of acidosis.

For clinical purposes, patients whose urine gives the acetone and diacetic acid reactions may be classified into three groups:—Firstly, those in whom no clinical signs and symptoms can be detected. We may include among these cases associated with excessive ingestion of fat, starvation, high fevers and malignant disease. In the second group we may include cases in which the clinical signs and symptoms may be masked by existing disease. Under this heading come patients suffering from diabetes, disease of the alimentary tract, certain cases of pneumonia, intestinal obstruction and appendicitis. Omitting the reaction which follows the use of certain drugs—for example, morphin, phloridzin and sodium salicylate—we find, thirdly, cases in which the symptoms are entirely due to poisoning by diacetic acid and acetone. These are the subjects of delayed anæsthetic poisoning, by chloroform, ether or nitrous oxide, or of attacks of vomiting recurring at varying intervals—conditions sometimes described as cryptogenic acidosis. This group is, I think, of more importance than has formerly been supposed, as it is now recognised that there are cases of true poisoning by acetone unassociated with other diseases.

The symptoms exhibited by subjects of acidosis are chiefly as follow:—Dulness and apathy, which increase as the condition progresses, and in severe cases may end in coma.

Restlessness and delirium are noted in some cases, and convulsions are not uncommon if the patients are children. The face is flushed, the tongue is dry and rough, the patient's skin is dry, and he often complains of severe thirst. Vomiting, if it occurs, is severe, being at times almost uncontrollable. The temperature is variable, but often remains high, hyperpyrexia occurring sometimes before the end in cases which terminate fatally. The condition may be mistaken for meningitis, especially if there is any tendency to retraction of the head. This group of symptoms may occur in patients who have undergone operations necessitating prolonged anaesthesia. It is possible that the cases of so-called delayed anaesthetic poisoning are due to acidosis. It might be worth while therefore to inquire into the previous history of patients, particularly as to whether they suffered from acute attacks of vomiting before the administration of an anaesthetic, and also to examine the urine for the acetone and diacetic acid reactions.

Post-mortem.—In some cases the liver has been found somewhat enlarged, and of a buffy colour, due to the presence of fat in the peripheral cells of the lobules—a point of considerable interest when one reflects that fatty change in that organ occurs also in phthisis, although fat may have largely disappeared from other parts of the body.

For the recognition of diacetic acid and acetone in the urine the following tests are commonly in use:—(1) A few drops of liquor ferri perchlor. added to half a test tube full of urine gives a red colour, which may vary from the lightest red to the deepest Burgundy if diacetic acid be present. This reaction may also take place if the patient is taking salicylic acid or one of its compounds, such as aspirin. (2) For the detection of acetone the test usually resorted to is that with sodium nitro-prusside and KOH. To carry out the test, take a specimen of urine to be tested, add an equal volume of KOH, followed by about twenty drops of a strong solution of sodium nitro-prusside. The urine may then turn a reddish brown colour, this reaction being due either to creatinin or acetone. If dilute acetic acid is now added drop by drop the colour will disappear when due to creatinin, but deepen and assume a

darker red colour if acetone is present. Some prefer the use of ammonia instead of KOH, the ammonia being floated on to the urine and nitro prusside of sodium. A violet ring is formed after some time if the reaction be positive.

Other tests have been used, such as the iodoform test and Riegler's test, but they are more suited to laboratory work than to ordinary clinical application.

The following are notes on a case which I have had the opportunity of observing:—A boy, aged three years, was admitted to hospital with this history:—He was suddenly taken ill, some days previously, with pains in his head extending down the back; he was unable to move his limbs for a few weeks, but subsequently he could be induced to move his legs and arms fairly well. He vomited a few times, but not to any great extent. On admission to hospital he was listless and apathetic; he lay on his back, with his legs drawn up in a "frog-like" position; he resented greatly any attempt to straighten them; there was no wasting of any of the limbs, nor much sign of paralysis. His face was pale; his eyes were somewhat heavy; he did not shun the sunlight, but had a slight tendency to retraction of the head. Since his admission he has not vomited, but he suffers considerably from constipation. He was sent from the country as a probable case of meningitis, but on examination of a specimen of urine it was found to give the reactions to the diacetic acid and acetone tests, while those for sugar were negative; and the symptoms were put down to an acute acid intoxication. The child subsequently improved greatly under treatment for this condition, all traces of acetone having left the urine in about three weeks' time.

In the rational treatment of acetonæmia the facts which one has to bear in mind are the following:—(1) That the condition is an acid intoxication; (2) that the toxic substances are probably dependent on abnormal fermentation for their production.

To combat these, two lines of action may be adopted. We may attempt to neutralise the acidity of the blood by administering alkalis in large doses. Some authorities recommend

that sodii bicarb. be given by mouth in amount up to 100 grammes per diem. and continued until the urine becomes alkaline. The drug requires to be pushed in order to avert impending coma. If rapidity of action is required, or if coma is actually present, it may be given either subcutaneously or intravenously as an injection; but in such cases certain precautions are to be observed, for a strong solution is liable to melt the tissues. Subcutaneously, a weak solution of sodii bicarb. (1-300) may be injected, or a more strongly alkaline solution of sodii carb. (3 per cent.) may be introduced directly into a vein. Some prefer a combination of citrate of sodium and bicarbonate, and a proportion of three grains of the first to 15 grains of the second has been given every four hours. In contrast to this it may be mentioned that in the case of the child already mentioned 5i of bicarbonate of sodium was administered every four hours for three weeks continuously without producing intolerance, and at the same time with the gratifying result that acetone disappeared completely from the urine.

As regards the production of toxic substances through abnormal fermentation, we should direct attention to the alimentary tract. Bearing in mind that diabetics are notably constipated, and that particular care is necessary to keep the bowels acting freely in patients suffering from this disease, especially when the appearance of diacetic acid in the urine heralds the onset of coma, the necessity for such procedure suggests itself as a matter of expediency.

In this connection one thinks, too, of diabetic tabes, the neuritis and paresis which are so often associated with the disease; all the more so in view of recent articles concerning the pathology of "writer's cramp" and "professional spasm" in general. At least one observer has recorded the frequent association of gastro-intestinal fermentation, accompanied by a toxæmia in the majority of these cases; and he recommends from his own experience the employment of intestinal antiseptics and drugs like aspirin or other salicylates as a salutary measure, in addition to the routine treatment by massage and galvanism. In acetonæmia, therefore, we may follow similar methods with beneficial effect.

In conclusion, I might add that when urine is being tested, more particularly when the diagnosis is in doubt, it is always worth while to add a drop of liquor ferri perchlor., even when sugar is absent from the specimen, remembering at the same time the fallacies already mentioned.

ART. V.—*Pulmonary Embolus following Operative Interferences.* By CHARLES GREENE CUMSTON, M.D., Boston, Mass.

THE publication of surgical disasters is of as great, if not greater, importance than a series of brilliant results, and much benefit would accrue if mistakes and failures were recorded more frequently. I recall one instance of probable pulmonary embolus occurring in my practice several years ago. The patient was a frail woman of some fifty years of age, upon whom I did an exploratory laparotomy for Dr. C. R. Capelle, of Roxbury; which resulted in a most beautiful demonstration of a proliferating papillomatous cyst of the ovary, with generalised secondary growths on the peritoneum. About one gallon of fluid was let out from the peritoneal cavity. The recovery was uneventful until the fourteenth day, at which time the patient was to leave the hospital, when, after being dressed by the nurse, she suddenly developed an intense dyspnœa and dropped dead beside her bed. As no autopsy could be obtained, the diagnosis of pulmonary embolus can only be probable, but not certain.

However, quite recently it has been my misfortune to have a young, healthy woman for operation, who successfully underwent the removal of an ovarian cyst, but who suddenly died without warning, a victim of pulmonary embolus. No external nor visible signs, no Mahler's symptom, no general disturbance gave a warning as to the ultimate outcome, but, in this case, the autopsy revealed the indefinite, and, I may say, the hidden state of affairs. In this particular case there certainly were favourable conditions for the formation of a thrombus, which I shall ultimately point out. However, the original site of the primary thrombus was not ascertained,

as it probably had been completely swept away. The case once more teaches how far we are still from finding an explanation of the real cause of this condition, in spite of Mahler's work and many other researches for elucidating an explanation of the process, and what is by far of greater import, a prophylactic treatment of pulmonary embolus which, in most instances, terminates fatally.

CASE.—The patient, a female, twenty-nine years of age, was referred to me with an excellent family history. She was single. Menstruation commenced at the age of thirteen, and was always regular every twenty-eight days up to the age of twenty-three, at which time the amount of blood lost began to increase. A little before this increase in the amount of the menstruation, the patient had begun to complain of backache and some pain in the left side. Two years before the patient came under observation the menses became irregular, sometimes appearing every three, at others every five or six weeks, but during the interval she did not suffer. She had never been pregnant. She never suffered from constipation, but latterly had complained of discomfort in the abdomen, as if distended by gas.

Examination showed a strong, well-developed young woman. The heart was somewhat enlarged, the apex being to the left of the nipple in the sixth intercostal space. The cardiac sounds were weak, but no murmur was detected. The heart was also somewhat enlarged towards the right. Lungs normal. Liver and spleen were normal. The abdomen was distended by a tumour about the size of a foetal head at term, this being located to the left. The neoplasm was very movable, fluctuation could be easily detected, but the growth was not painful on pressure. The transverse colon lay above the tumour, and there was no evidence of ascites. The uterus was normal in size, but, by careful palpation, the right ovary appeared somewhat enlarged and a little sensitive on pressure. In the left side the tumour already described filled it completely. A diagnosis of probable ovarian cyst was made.

At operation, a few days later, an ovarian cyst was found, having a very long, narrow pedicle, but perfectly free from adhesions. It was easily drawn outside the abdomen after puncture, and the pedicle was ligated with kangaroo tendon. Duration of the operation, twenty minutes.

Recovery was uneventful, and the patient was allowed to sit up on the twelfth day. At no time during convalescence did the pulse reach above 80 and the temperature never exceeded the normal. On the twentieth day following the operation the patient, after being dressed and seated in a chair, without any warning, suddenly developed intense dyspnoea, she became cyanotic and unconscious, while the pulse was so small that it could not be counted. In spite of the treatment at once intelligently given by the nurse the patient died in ten minutes.

Autopsy was done twenty-four hours after death. On opening the abdominal cavity the peritoneum was found perfectly normal; the omentum slightly adherent to the abdominal incision. There was no liquid in the small pelvis, and the right adnexa were perfectly normal. Careful examination of the stump of the pedicle showed that it was in perfect condition. The liver, spleen, intestine and appendix were normal. The diaphragm was quite high on both sides, reaching the lower border of the fourth rib. Both pleural cavities were free from fluid, and the external aspects of the lung appeared normal. The pericardium contained a few drops of serous fluid, but its aspect was glistening, and there was absolutely no trace of pericarditis. The right lung was contracted, slightly pigmented, and with a smooth, glistening pleura. At the junction of the middle lobe with the lower lobe there was seen a dark, sub-pleural discoloration of the pulmonary tissue, and on section of the pulmonary parenchyma this was found to still contain air. The parenchyma was of a brownish-red hue, and contained a little blood. A large branch of the pulmonary artery, which extends along the lower portion of the lung, contained fresh, brownish-coloured thrombi, slightly adherent to the vessel walls, and corresponding to the above-mentioned dark discoloration of the pulmonary parenchyma is found a black focus, about the size of a hen's egg. The bronchi present nothing of note. The left lung was very similar to the right one; its parenchyma was somewhat collapsed, and of a dark, brownish-red hue. The large branches of the pulmonary artery were thrombosed, but would not here have resulted in an infarct. The heart was somewhat enlarged; the epicardium was smooth and shiny, while the cardiac parenchyma was fatty, especially in the muscular structures of the right ventricle. The right heart was somewhat enlarged, but the endocardium and the valves on both sides were perfectly normal. The cardiac muscle was reddish-

yellow in colour, and soft. The aorta was rather narrow, and its walls were thin. The anatomic diagnosis was laparotomy for left ovarian cystoma, pulmonary emboli, with infarctus.

It will be assumed that all are familiar with the important studies of Virchow and Cohnheim on thrombosis and embolus, which form the basis for the more recent researches on this question, so that reference will be made to them. But, after these important writings many other painstaking investigations have been carried out. Aufrecht, on the whole, agrees with the theories advanced by Virchow, although he is of the opinion that primary coagulation in the pulmonary artery is quite possible. Most interesting and varied are the opinions relative to the cause of death in pulmonary embolus. The most important early works on the subject are those from the pen of Virchow, Pannum and Cohn, but I will only refer to the results obtained more recently by Kose. He believes that the immediate cause of death is due to the disturbance arising in the action of the left ventricle, this being caused by it being insufficiently filled with blood, while the cessation of the functions of the respiratory organs, resulting in asphyxia, is, as far as the time of occurrence is concerned, secondary. The systole becomes weaker on account of the lack of blood entering the heart, but the heart begins to contract more rapidly, as in cases of serious hæmorrhage; nevertheless, the increased rate of pulsation is not in itself sufficient to cause paralysis of the systolic action. The circulatory cycle is, according to this authority, inhibited. However this may be, it would appear that most investigators concur in the opinion that death is the result of obstruction of the trunks of the pulmonary artery, or one of its main branches, or of several small branches, resulting in the clinical manifestations of asphyxia or syncope. In the case of a small embolus, dyspnoea is alone evident, while disturbances in the cardiac functions are not marked, and the patient complains of some vertigo. Since, however, pulmonary embolus, with its various results, is a secondary manifestation, I would refer for the time being to its primary cause—namely, the thrombi and their development, and particularly the principal ætiological factors.

Here, also, as already stated, Virchow's writings have been the foundation for the study of thrombus and embolus. but opposed to him is Rizor, and before him many others who proved that blood coagulation never arises in a healthy blood-vessel. Brücke particularly points out as a cause changes in the vessel walls, this in turn acting on the fibrin contained in the blood. Our most accurate knowledge of this subject is probably due to the researches of Eberth and Schimmelbusch. Their experiments have shown that (1) a simple uncomplicated slowing down of the flow of blood, whether it causes migration of the leucocytes towards the vessel wall or forces the blood corpuscles toward it, cannot in itself result in the formation of a clot within the vessel when no other lesion is present; (2) that, when the vessel walls are injured, the blood plates may appear in the upper strata of the stream, due to a slowing of the latter, and they come in contact with the injured portions of the vessel walls, becoming adherent there, and, in this way, more or less extensive agglomerations of blood plates develop; (3) the blood plates in the development of these thrombi are the integral ætiological factors, and the white as well as the red blood corpuscles merely represent accidental factors; (4) with a circulation in good condition the development of continuous and obstructing thrombi, even in instances of severe injury to the vessel walls, is a rare occurrence, which is always dependent upon some further local complications.

This process, however, is still more complicated, because changes in the density of the blood, as well as in its anatomical elements, likewise cardiac lesions, favour the development of the process. Such conditions are present, particularly in thrombus arising during the puerperium and the post-operative type.

The slowing of the circulation may occasionally arise from pathological changes in the heart, which I shall discuss in more detail later on. As a second cause may be mentioned an increased resistance in the peripheral circulation, which occurs in pregnancy and in pelvic neoplasms; the positive intra-abdominal pressure increases, resulting in diminished movements of the diaphragm; there are neoformed blood-vessels,

and the anatomical position of the veins results in pressure upon them between the growth and the pelvic bones. In addition, in the veins of the lower limbs, when the patient is confined in bed for any length of time, there is a change in the natural position of the former, resulting in a reflux of the venous blood. Then, again, changes in the muscular and valvular contractions of the heart, which become insufficient on account of the overflow of venous blood, results in the ultimate development of varicose veins.

The changes in the composition of the blood are various. From pressure on the intestine, digestive disturbances arise, which naturally influence the quality of the blood. From the growth of a neoplasm—especially when there is profuse hæmorrhage—as well as from chemical influences, anæmia occurs, and may frequently reach a very marked degree. Then, again, the changes in the blood occurring during pregnancy have been satisfactorily demonstrated of late years.

We now have to consider changes arising in the heart. On account of the development of neoformed vessels and the circulatory difficulties, there are increased demands made upon the heart, to which the organ first reacts by hypertrophy, but, on account of the changes in the composition of the blood, the cardiac muscle is insufficiently nourished and, as a result of this, fatty degeneration and brown atrophy occur. Hofmeier was the first to call attention to brown atrophy of the heart, particularly in cases of uterine fibromata, and Oppenheim points out that cardiac neuroses not infrequently arise in chronic appendicitis. Dr. Herman Boldt, of New York, and the writer have each contributed articles on the effect of uterine myomata on the heart, these papers being both published in the *New York Medical Journal*, 1906.

Besides thrombosis, which may be accounted for by the above-mentioned conditions, cases have been reported where other ætiological factors came into play. I do not here refer to inflammatory processes arising around the veins, or thrombosis in the placenta—processes which are easily explained—but to those which occur after simple aseptic surgical interferences. It might be supposed that labour or the removal of a large

abdominal neoplasm would improve the conditions of the circulation and would prevent the existing predisposition for thrombosis formation. This would indeed be the case if labour or the laparotomy did not produce other causes which act favourably on the formation of a thrombus. After labour, or after the removal of an abdominal tumour of some size, the abdominal walls retract and the intra-abdominal pressure decreases, this giving rise to enlargement of the pelvic veins, and, as a consequence, the flow of blood through them is slow. On the other hand, if there is a considerable loss of blood during labour or the operation, anæmia will result, depression of the nervous system will take place, and consequently there will be a weakening in the cardiac action. Consequently, it may be assumed that labour and abdominal operations give an impetus to thrombosis formation when the blood is in poor condition, the heart somewhat pathologically changed, and from the resulting disturbances in the circulation.

There are other instances, few in number it is true, in which none of the above-mentioned factors could be found. It is difficult to account for the occurrence of pulmonary embolus arising after operation for hernia in young, healthy individuals, in which only very small veins are ligated, and after a perfect aseptic healing of the wound evident signs of pulmonary embolus occur. One of the first cases reported in which a pulmonary infarct occurred after operation for hernia is due to Bayer. The patient was a male, twenty-two years of age, with a left funicular inguinal hernia. The operation consisted in transfixion of the isolated neck of the sac, its extirpation and removal, followed by careful suture of the canal. On the day following the temperature was 38.6° in the morning and 39° in the evening, and the patient was troubled with a cough. On the next day there was fresh and clotted blood in the sputum, and the temperature was still up. Auscultation showed that over the right lung posteriorly there was a circumscribed dulness and bronchial breathing. Healing occurred perfectly. As the hernia was perfectly free, and no bowel was seen during the operation, the author believes that the embolus was caused by the

dissection of the venous plexus, this process having detached the existing thrombus.

I have practically nothing to say relative to thrombosis formation in the right ventricle or pulmonary artery, because these cases are extremely rare, and no satisfactory explanation of their pathology has been given.

Opinions vary as to the cause of separation of a thrombus or portions of it. Some accept the theory of inflammatory softening and degeneration of the thrombus, but the question is: Where do these inflammatory products come from if no inflammatory process is present in the body? Others believe that, when the thrombus has reached the orifice of the nearest vessels, particles are little by little torn off from the constant washing of the blood stream against it. This would also explain the fact that pulmonary emboli usually occur directly after some violent exertion on the part of the patient, this usually taking place the first day, or a few days later, after the patient gets up, thus causing an increase in the strength of the flow of blood through the vessels. This may also, perhaps, be explained from the fact that a pulmonary embolus occurs much more frequently in cases of pelvic thrombosis than in thrombosis of the veins of the lower extremities.

The diagnosis of pulmonary embolus cannot be made with exactitude in slight cases, and in those that are fatal, if it cannot be made during life, it can always be demonstrated by autopsy. However, an early or immediate diagnosis of pulmonary embolus is of little value, because there are few means at our disposal which will remedy the state of affairs. One should rather endeavour to prevent the process from occurring, and this can be accomplished if a diagnosis of some existing thrombosis can be made. This, of course, is an easy thing to do in the case of thrombus of the saphenous vein, or other superficially situated ones. When this occurs the vessels can be palpated, and there is more or less pain along the vessels, and œdema of the limb. The œdema, of course, must be differentiated from that arising from cardiac or renal diseases. On the other hand, pelvic thrombi give rise to no such symptoms, unless the clot extends down to the veins

of the thigh. Tenderness on pressure, pain, enlargement of the superficial abdominal veins, and gastric disturbances would seem to point to the presence of thrombi, but these symptoms have so many indications that they, in themselves, are of no particular value. It has been pointed out by Dohrn that euphoria often follows an embolus and causes the patient to make exaggerated movements.

In 1885 Mahler pointed out certain characteristic conditions of the pulse arising in thrombosis, a symptom which, however, is not always to be found, but, of recent years, seems to me to have been forgotten or overlooked, and for this reason I am desirous of calling attention to it, for if its presence is detected it may be of considerable diagnostic value. I will give a literal translation of Mahler's own words:—"In a typical thrombosis the pulse rises and continues to rise while the temperature remains perfectly normal. If there is œdema a thrombotic strand may be palpable, or if pulmonary symptoms arise the pulse beat reaches its highest point, and occasionally the temperature goes up at the same time; but while the temperature will be found to fall during the next few hours the pulse will remain rapid for several days. Sometimes the recognition of thrombosis is made more difficult by a gradual increase in the pulse rate, simultaneous with a slight rise in temperature at the very commencement of the process. In such cases, however, the diagnosis is pretty certain when there is a marked divergence between the pulse and temperature curves. On the other hand, there are cases where the gradual increase in the pulse rate is not marked, the temperature is normal; and then, again, there may be a small and very rapid pulse, and in these cases one should also take into consideration the possibility of a thrombosis."

We have also to deal with instances of pulmonary embolus, such as the case here reported, where, without any warning, the patient, after getting up after an operation, suddenly develops alarming symptoms, which prove fatal in a short time. In closing, I would also point out that Oppenheim has stated that a perisyphilitic abscess can cause a compression thrombosis, and in cases of internal operations, where the appendix

is buried in adhesions and firmly bound down to the iliac fascia, the blood vessels are naturally ruptured during the dissection, so that a disturbance in the circulation arises, and, added to this, on account of a long continued intra-abdominal suppurative process, the heart has undergone changes, and we have thus all the conditions favourable for thrombosis formation.

ART. VI.—*The Treatment of the Epileptic.** By ERNEST T. JAMESON, M.D., Univ. Dub.

I HAVE taken as the subject for this Thesis the treatment of the epileptic, and have mainly kept in view the methods which are being tried, or have been tried, in Hatton Asylum, Warwickshire, where I acted as Assistant Medical Officer for some months last year (1907). Much has been written on the subject, and treatment both disciplinary and dietetic has been advised. The diet should tend to minimise nitrogenous food, and exclude all that is indigestible, and cut down fats and sugars. Purely vegetable diet gives worse results than a purely meat diet, owing to the fact that vegetable albumen putrifies more readily than animal albumen, and is thus more liable to give rise to toxins, though the more plethoric patients do better without meat. Some advocate small doses of alcohol as an ordinary beverage to help the activity of the process of oxidation of normal tissues, which they believe are deficient in epileptics.

The Toulouse-Richet method of treatment consists in the reduction of the chloride of sodium in the food by a suitable diet during the time that bromides are being administered. Their theory is that under these conditions the bromide can substitute itself for the chloride of sodium in the tissues, and hence by a more intimate contact influence more powerfully the cell activities. This develops the action of the small dose. The conclusions regarding this diet were that it is undoubtedly efficacious with regard to the number, severity, and duration

* A Thesis read for the Degree of M.D. in the University of Dublin, December, 1907.

of the convulsive seizures. It produces no appreciable harm, the physiological condition is often improved, and the general nutrition is better in the majority of cases, no further improvement in the latter being noticed on a return to the diet including chlorides; and when this change was made even suddenly there was no exacerbation of the convulsive attack, while the general improvement noticed was not done away with, at any rate not for some time. Halini recently tried this treatment in fifteen cases, with results that may be described as negative; but it has been pointed out that the lines of their experiments do not appear to have been judiciously laid down.

The originators are careful to recommend the reduction of the dose of bromide when passing from a full saline dietary to one which is hyperchlorised.

In the few cases in which I have seen this treatment employed it certainly develops the action of the small dose (that is, 10 grs. of the bromide of sodium three times a day) to a marked degree.

One patient, a female, gained flesh rapidly under this treatment, and expressed herself as feeling better than she had done for many years previously. These results are probably not only due to the special diet which she received, but also to the less depressing action of the very small doses of bromide (compared with those which had previously been taken) with which one was able to control the epileptic attacks. She, like others, complained bitterly at first of the deprivation of salt in all her food. This objection was not so marked on the Continent, where the cooking is so much superior, and salt is not the one and only flavouring agent.

Organo-therapy has attracted attention of late years. Experiments with didymin and cerebrinin have been carried out in this asylum.

According to Professor Poëhl the testis contains an active principle—an animal alkaloid, or base of a leucomain nature called spermin, which is said to be a powerful oxidising agent, and to be present in the semen, blood, thyroid and pancreas. Ten male epileptics were treated with 5 gr. doses of the extract

of didymin three times a day. Five had fever fits during the month. One patient, who had not spoken for years, and was a subject of epileptic dementia, became garrulous; others exalted, and had hallucinations of sight and hearing to a greater extent.

The brain is known to contain a number of the most complicated combinations, as lecithin-protargon, cephalin and cerebroides; the latter possess the character of glucosides and include cerebrin and phrenosin. Four female epileptics were treated by cerebrinin tabloids, the treatment and dosage being the same as those followed when using didymin extract. In the first case the physical reaction was not marked, but there was some digestive disturbance. The treatment was continued for fifteen days, during which time she became more excited and had marked hallucinations of hearing. Taking a corresponding period before and after the treatment there was a slight increase in the number of fits. Three more cases similarly treated proved no more successful. In the fourth case the patient had a greatly increased number of fits, subsequently becoming acutely maniacal. She had been resident in the asylum for eight years, and had always been quite orderly and well-behaved.

After these unwished-for results no more of this particular extract was used; but at a later date a preparation of Professor Poëhl's, known as cerebrinum, and manufactured in his laboratory in St. Petersburg, was tried. Five female epileptics and one male epileptic were treated after the manner laid down by Lyon. All these patients were given two cerebrinum Poëhl tabloids three times a day, each tabloid containing 0.3 grms. of the extract. Lyon began by giving the whole dose (1.8 grms) at one time in the early morning while the patient was fasting, giving this every third day, then every second, and then daily if necessary.

The following results were obtained in Hatton Asylum:—

CASE I.—A female patient, sixteen years of age on her admission in 1901. Her parents were of drunken habits. For a short time she is said to have earned her living as a domestic servant, but has always been regarded as of feeble intellect,

For the last four years before her admission she was an inmate of the workhouse, and during this time she began to have fits, which gradually became worse. She is of an affectionate disposition, and has always been tractable and orderly, and worked industriously in the laundry when able to do so. She was placed on this treatment on August 19. A careful record of her fits during the preceding month showed them to have been one hundred and fifteen, of varying severity. During the following month, while under treatment, her fits numbered ninety-one. At first they were of a milder type, but afterwards became very severe, and it was found advisable to stop the administration of these tabloids during the second month of treatment. At first they caused the patient to be more excited, irritable, and quarrelsome, but afterwards, when her fits became more frequent and severe, she became quite demented and very helpless, and had to remain in bed. During this time she was given 20 grs. of sodium bromide three times a day when much convulsed.

At the present time, some months after the treatment was abandoned, her mental condition is much the same as it was before it was begun.

Lyon says that an apparent increase in the number of attacks is probably due to an individual insufficient saturation with the cerebrinum. But to have pushed the treatment in this case might have been attended with grave risk.

CASE II.—A female patient, of no occupation, was admitted, having been subject to epileptic fits for the previous sixteen years. She was of a cheerful disposition, but very sly and deceitful, and at times spiteful towards her fellow-patients. She would seldom pass a week without having a fit; as a rule they occurred every few days, and were of a severe type. She commenced to take these tabloids on Sept. 1; during that month she had eleven fits, which was rather below her usual monthly average. She expressed herself as feeling very queer in the head and hardly to know what she was doing. During the early part of the next month she had fits daily—twenty-six in all up to the 19th. After this she began to improve mentally, became much quieter and generally better conducted. She was not so sly and mischievous, and employed herself more industriously than was her wont. She was free from fits until Nov. 8, on which day she had six seizures. She had very occasional fits after this, and the ad-

ministration of the tabloids was stopped after 180 grms. had been given; but she was again not so well mentally, and her fits increased in number. She asked that she might be given some more of the "little brown sweets which tasted like mushrooms," referring to the tabloids, as she felt much better when taking them. This wish was complied with, and her fits ceased at first, though during the first twelve days of the following month she had eighteen fits. After 258 grms. in all had been given the treatment was stopped, and no more was again given. Her bodily health had improved under this treatment, and she gained flesh. At the present time her fits are more numerous, and her mental condition is not so responsive as during the time she was taking the tabloids.

CASE III.—Also a female. A marked temporary improvement resulted from the treatment. The patient gained considerably in weight, and worked cheerfully and industriously, although she had never employed herself regularly before—in fact a complete revolution seemed to have taken place in her moral nature. But, unfortunately, this improvement proved only a transitory one—for being so well she was allowed to discontinue her bromide mixture, and a few days later her condition was rather worse than before the treatment was commenced.

In this case the patient, who had rarely passed a week without having at least one or two fits, remained free for over two months, when she had an attack of *petit mal*, and, as stated above, relapsed again into her former state, and her mental condition has certainly not benefited permanently by this treatment.

To summarise the results—in Case I. it had to be abandoned owing to its markedly injurious effects upon the patient; Case II., an improvement during the time of treatment only; Case III., a marked temporary improvement.

Thyroid extract has been advocated by some in the treatment of epilepsy. It has been tried in a few cases in this asylum, but the results were never found to be beneficial, and in the majority of cases positively harmful.

Serum-therapy was advocated by Ceni in a paper published in November, 1901. His theory was that the blood serum of

epilepsy contains a specific stimulating substance to which are due the good effects noted.

Most physicians will, however, agree that at the present day a bromide is the sheet anchor in the treatment of the epileptic, at any rate in most cases. A useful mode of administration is that advanced by Charcot, in which during the third and fourth week of maximum dosage a sufficient number of grains of bromide, which may vary in individual cases, should be given to produce a certain degree of lassitude and somnolence, and in addition the pupil symptom—the pupils reacting neither to light nor accommodation, and being, moreover, at their maximum dilatation. Loss of palate reflex is one of the earliest signs that the system is under the influence of bromide.

The occurrence of acne may be guarded against by giving the drug largely diluted with alkaline waters and by administering full doses of arsenic from time to time, or by giving 1-2 m of arsenic with the bromide dose.

In cases where bromide treatment fails, borax may be tried; oxide of zinc or strychnin may be of service; nitrite of amyl may sometimes arrest a fit.

The prognosis of epilepsy in the case of both the sane and the insane is grave, though, of course, much more so in the case of the latter. In the former the most hopeful cases are those due to alcohol or syphilis. The fits sometimes cease spontaneously, and this is more particularly noticed in children when epilepsy followed teething or some fever.

The proportion of those insane epileptics who recover sufficiently to regain their liberty is very low. During the last three years, of forty-nine men and forty-five women admitted to the asylum suffering from the disease, only six men and three women have been discharged as recovered or relieved.

In conclusion, although we may do much to control and lessen the prevalence of this direful malady, I fear that unless we succeed in entirely eradicating the neurotic diathesis epileptics, like the poor, will be always with us.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A System of Medicine. Edited by WILLIAM OSLER, M.D., F.R.S., Regius Professor of Medicine in Oxford; assisted by THOMAS M'CRAE, M.D., F.R.C.P., Professor of Medicine, Johns Hopkins University. Volume II. London: Henry Frowde; Hodder & Stoughton. 1907.

THE Editor and publishers of this System of Medicine are to be congratulated on the speed with which they have succeeded in putting out the second volume. The general get-up of the book is identical with that of the first volume, which has already received notice in our pages. As before, the binding is not sufficiently strong for so large a book, but in other respects we have no fault to find. The list of contributors includes eighteen names, most of which are already well known to the profession. Only one writer out of the list is from Great Britain; one, Professor Shiga, is from Japan; one writer from Germany; the remaining contributors are from the United States and Canada.

The entire volume of 800 pages is devoted to some of the Infectious Diseases, which subject is to be completed in the third volume. A considerable number of illustrations are introduced, mostly exhibiting typical temperature charts in the various fevers, and, in addition, there are twenty-four full-page plates. Eight of these last-named are photographs of a case of small-pox taken on different days during the evolution of the eruption. These constitute a most useful and typical series, and are splendidly executed. Most of the other plates also are good, but they vary much in usefulness. Those ordinary illustrations which are not temperature charts are bad. It is unnecessary to justify this criticism by referring in detail to all of them, so we will content ourselves by referring to those on page 447 and page 436 respectively. A glance at either of these will con-

vince the reader that their omission would not impair the beauty or diminish the importance of the work.

The introductory chapter from the pen of Ludwig Hektoen discusses succinctly some general points in connection with infection, such as the paths of infection, the general pathological changes occurring in fevers, toxins, antitoxins, and other bacterial products. Then follows a series of chapters on typhoid fever by McCrae. The value of the studies made on this subject at the Johns Hopkins University, and of the treatment there adopted, have gained wide recognition, and one welcomes in consequence an authoritative and systematic account of the disease from the present writer. We are glad to note that he includes the infections with paratyphoid and paracolon bacilli under the general heading of "Typhoid Fever." The chapters on other diseases do not call for any special notice. They are complete and up to date. One feels, indeed, at times that the writers, in trying to include everything of importance, have here and there included too much, and given the importance of inclusion in their pages to work which is yet unconfirmed.

YEAR BOOKS FOR 1908.

1. *An Almanack for the Year of Our Lord 1908.* By JOSEPH WHITAKER, F.S.A. London: 12 Warwick Lane. 8vo. Pp. 1083.

UNALTERED in its leading features, this valuable Almanack appears for the fortieth time with some changes which should be noted.

Among the new articles will be found a *précis* of the amended Patent Law, a digest of the Employers' Liability Acts, an estimate of the strength and cost of the Armies of the World, an examination of Mr. Haldane's "New Model" under the heading "British Military Policy in 1908" (page 650, *et seq.*), a consideration of the rival questions of Conscription and Universal Military Service (page 653), a forecast of the workings of the new Death Duties, a statement of the cost of Old Age Pensions, and an inquiry into the state of the British Drama in 1906 and 1907.

In this edition the various orders of knighthood have been merged into two alphabetical lists of Knights and Companions, so saving space. The banking information has also been rearranged with a view to economising space. These changes have made it possible to enlarge the Index to the Calendar, so that it now includes nearly five thousand references.

2. *Whitaker's Peerage, Baronetage, Knightage, and Companionage for the Year 1908.* London: J. Whitaker & Sons, 12 Warwick Lane. Pp. 835.

THIS is the twelfth annual issue of what is probably the handiest Peerage which is published. The introductory articles, on the Sovereign, the Peerage and its degrees, the House of Lords, the Peerage outside of the House, the Baronetage, and the Knightage are very interesting reading. The volume opens with a list of Promotions and Creations up to November 26, 1907. This list is followed by an Obituary list, in which many distinguished and well-known names appear.

At the end of the volume is a list of the Roman Catholic Archbishops and Bishops in the British Empire or who, though not residing therein, are British subjects. Then follows an index to the seats and residences of titled persons cited in the Directory. An article on the "Stately Homes of England" will prove of considerable interest to a wide circle of readers. Lastly, there is a list of the Royal Warrant Holders, and the volume closes with a catalogue of sea trips and ocean tours and of health resorts in Great Britain and Ireland.

3. *The Holiday Whitaker.* Winter Edition, 1907-8. London: J. Whitaker & Sons, 12 Warwick Lane. Pp. 397.

THIS guide to the holiday and health resorts of the United Kingdom contains 250 illustrations, and tells the reader "where to go, how to go, where to stay, what to see, what to do." It is wonderful value for one shilling, but some of the entries need revision by some one acquainted with local geography. For example, to read that Dundrum, Co. Dublin, "is a neat and pleasant village with pure, bracing air, standing high on quickly drying soil, in a winding inlet of Dundrum

Bay," savours of romance and suggests that the writer possesses a vivid imagination.

4. *Scott's Emulsion Doctor's Diary and Emergency Note-book for 1908.*

5. *Scott's Emulsion Nurses' Diary and Emergency Note-book for 1908.* London: Scott & Bowne. The Chandos Press.

THESE neat and handy diaries are brimful of useful information—suitable in the one case for physicians and surgeons; in the other, for nurses. No pains have been spared to make the diaries as complete as possible. They are elegantly bound in leather, the cover bearing a gilt scale of 4 inches and of 10 centimetres. In each is a coupon insurance-ticket, entitling the holder to the benefit of an insurance in the Ocean Accident and Guarantee Company, Limited.

The Chemical Investigation of Gastric and Intestinal Diseases by the Aid of Test-meals. By VAUGHAN HARLEY, M.D.; and F. W. GOODEBODY, M.D. London: E. Arnold. 1906. Pp. 261.

THIS volume represents a large amount of laborious work, and contains a mass of information which will undoubtedly be very valuable to physiological chemists in especial. Some of the processes and methods described are too difficult or complicated except for a skilled chemist in a properly equipped laboratory. Still there remains a good deal which can be readily utilised in ordinary clinical work, and this applies particularly to Part I., which deals with diseases of the stomach. In this part we have an admirable account of the various procedures that may give us help as to diagnosis and treatment. The authors justly urge that the idea that any *one* chemical factor is pathognomonic of any special condition must be at once put aside. For example, the diagnosis of carcinoma of the stomach from absence of free HCl in the gastric contents is now regarded as non-conclusive unless the history and physical signs support the diagnosis.

More than half the volume is taken up with a detailed account of the examination of fæces, an unattractive subject which has not hitherto met with full recognition in English

text-books. We may be allowed to say that the results as here expounded do not lead us much farther in practical diagnosis, and are scarcely commensurate with the unpleasant task involved in the examination.

When applying Uffelmann's test for lactic acid in the gastric contents it is well to remember that alcohol, sugar, and phosphates likewise respond to the test. Hence it is better to shake up 5 cc. of the gastric contents with 30 cc. of *pure* ether. The separated ether is then evaporated, the residue dissolved in a little water, and tested with Uffelmann's reagent.

Several careless slips and misprints occur—*e.g.*, mucus is dubbed a *glycero-proteid*, and we meet with *neucleo-proteids*; Ehrlich-*Brondi* stain (twice); acetic acid *and* fatty acids; lactic acid and "*the other volatile fatty acids*" (*sic*!).

RECENT WORKS ON SURGERY.

1. *Surgical Diagnosis*. By DANIEL N. EISENDRATH, A.B., M.D.; Adjunct Professor of Surgery in the Medical Department of the University of Illinois (College of Physicians and Surgeons); Attending Surgeon to the Michael Reese and Cook County Hospitals, Chicago. With 482 Original Illustrations, 15 of them in Colours. London: W. B. Saunders Company. 1907. Pp. 776.
2. *Modern Surgery: General and Operative*. By JOHN CHALMERS DA COSTA, M.D.; Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, and Consulting Surgeon to St. Joseph's Hospital, Philadelphia. Fifth Edition. Thoroughly Revised and Enlarged, with 872 Illustrations, some of them in Colours. London: W. B. Saunders Company. 1907. Pp. 1283.
3. *Diseases of the Rectum and Anus; including the Fifth Edition of the Jacksonian Prize Essay on Cancer*. By HARRISON CRIPPS, F.R.C.S.; Senior Surgeon, St. Bartholomew's Hospital; Member of the Council, Royal College of Surgeons; Vice-President of the Royal Medical

- and Chirurgical Society. Third Edition. London : J. & A. Churchill. 1907. Pp. 588.
4. *Cancer of the Rectum : Its Surgical Treatment.* With an Appendix of 380 Cases. Jacksonian Prize Essay. Fifth Edition. By HARRISON CRIPPS, F.R.C.S., &c. London : J. & A. Churchill. 1907. Pp. 255.
 5. *Cancer of the Stomach.* By A. W. MAYO ROBSON, D.Sc., F.R.C.S.; Member of the Council, Royal College of Surgeons; Vice-President, Royal College of Surgeons (1902-3 and 1904-5). Hunterian Professor of Surgery and Pathology, 1897, 1900 and 1904, &c. London : James Nisbet & Co., Ltd. 1907. Pp. 218.
 6. *Surgical Applied Anatomy.* By SIR FREDERICK TREVES, BART., G.C.V.O., C.B., LL.D., F.R.C.S.; Sergeant Surgeon-in-Ordinary to H. M. the King; Surgeon-in-Ordinary to H. R. H. the Prince of Wales; Consulting Surgeon to the London Hospital; late Lecturer on Anatomy at the London Hospital. Fifth Edition. Revised by ARTHUR KEITH, M.D., F.R.C.S.; Lecturer on, and Senior Demonstrator of, Anatomy at the London Hospital; Examiner in Anatomy, Royal College of Surgeons, England, and University of Leeds; formerly Examiner in Universities of Aberdeen, Cambridge, &c. Illustrated with 107 Figures, including 41 in Colours. Thirty-fourth Thousand. London : Cassell & Co., Ltd. 1907. Pp. 640.
 7. *The Practical Medicine Series : Comprising 10 Volumes of the Year's Progress in Medicine and Surgery.* Volume II. General Surgery. Edited by JOHN B. MURPHY, A.M., M.D., LL.D.; Professor of Surgery in Rush Medical College (in affiliation with the University of Chicago). Series 1907. Chicago : The Year-Book Publishers. Pp. 608.
 8. *Manual of Surgery.* By ALEXIS THOMSON, F.R.C.S. Ed., Assistant-Surgeon Edinburgh Royal Infirmary, Surgeon to the Deaconess Hospital, Edinburgh; and ALEXANDER MILES, F.R.C.S. Ed., Assistant-Surgeon Edinburgh Royal Infirmary, Surgeon to the Leith Hospital. Volume II. Regional Surgery. Second Edition. Revised and

Enlarged, with 203 Illustrations. London: Young J. Pentland. 1907. Pp. 816.

1. MAKING a correct diagnosis is exceedingly important before instituting prompt treatment. It is with this object Dr. Eisendrath has produced the treatise before us. The question of diagnosis has been approached chiefly from the clinical standpoint, and injuries and diseases are grouped in such a manner as the surgeon or medical practitioner must consider them when called upon to examine a patient. The first chapter is devoted to a consideration of the surgical affections of the head, face and mouth, including the salivary glands. Injuries receive attention first, and subsequently the diagnosis of the various diseases is succinctly discussed.

In Chapter II. the author treats of the surgical affections of the neck, beginning with the diagnosis of congenital and acquired malformations, from which he proceeds to injuries and foreign bodies in the air passages. Inflammatory affections are then considered, and finally tumours of the neck and larynx.

Chapter III. is devoted to a consideration of the diagnosis of thoracic affections, including diseases of the breast. The author follows the same principle, at which few will cavil, as no more practical method of endeavouring to make a diagnosis could be conceived than that of discussing injuries first, the acute and chronic inflammatory affections, and, finally, tumour formations.

In Chapter IV. we find no less than 190 pages, but when it is considered that the author has discussed the diagnosis of all abdominal and pelvic affections, beginning at the œsophagus and terminating at the anus, following throughout a similar procedure, we do not consider the space devoted by any means excessive.

Injuries and diseases of the extremities are described, so far as diagnosis is concerned, in Chapter V., while the diagnosis of spinal affections occupies some 30 odd pages in Chapter VI.

In Chapter VII. will be found a description of post-operative complications, while in the concluding chapter the author gives us details for the methods of examination of the blood

in different conditions, the method of determining the opsonic index, the value of the differential leucocyte count, the examination of the sputum, stomach contents, urine and fæces, and winds up with an account of the newer methods of diagnosis of renal lesions.

The book is well illustrated, and in this respect is everything that could be desired. We have no hesitation in recommending the book to the careful perusal of the junior surgeon and general practitioner.

2. It is scarcely necessary for us to do more than mention that a new fifth edition of Da Costa's well-known treatise on surgery has appeared. Still we would not be fulfilling our duty were we to omit mentioning the fact that the work has been thoroughly revised, considerably enlarged (almost 200 pages are added, and over 160 new illustrations), while all the most important advances in connection with diagnosis and treatment have been incorporated. We must, however, draw attention to the inadequacy of the section on the surgical affections of the tongue, which is far from coming up to modern requirements. The description of Kocher's operation requires revision. It begins by stating that Kocher recommends a preliminary tracheotomy, whereas in the revised English edition of that surgeon's work on operative surgery the following sentence appears:—"A great improvement in our new method is that we no longer perform a preliminary tracheotomy and pack the trachea so as to prevent blood passing down into the lungs." Furthermore, the procedure known as Kocher's "normal procedure" is quite different from that described by Da Costa. Considering that the edition of Kocher's work, from which this English edition was translated, appeared about 1902, and that the English edition appeared in 1903, we certainly think the author has had ample time to revise this description, and bring it into line with modern ideas. In our review of the fourth edition of this work we drew attention to the same section, but evidently without result.

We have nothing to offer but praise for the general excellence of the work, and feel we can confidently recommend it to all students and general practitioners.

3. MR. HARRISON (CRIPPS' "Diseases of the Rectum and Anus" is a well-known work coming from an author with an established reputation. The author tells us in his preface that this edition has been revised and brought up to date. With the ætiology and symptomatology we find no fault; but little revision indeed has been necessary, as nothing new of any importance has been discovered as regards the ætiology, symptomatology, pathology, or diagnosis of rectal and anal troubles within recent years. The advances have been in the direction of treatment, and here we must confess to disappointment in our perusal of the edition before us. To take the fairly common subject of prolapse of the rectum: the operative treatment occupies but two and a half pages, and but two methods are described—viz., the linear cauterisation method and excision. One would surely expect in a treatise on rectal diseases by a specialist some authoritative pronouncement upon other more modern procedures of the treatment of a relatively common condition. The description of such methods as those of Lange's proctorrhaphy, Roberts' elliptical excision, Verneuil's proctopexy, Tuttle's proctopexy, Peter's proctopexy and Jaennel's colopexy or ventrifixation is ignored. Similarly, in connection with the treatment of cancer of the rectum, we look in vain for any accurate description of any of the methods most frequently made use of by modern surgeons for the extirpation of the disease. True, the author describes in detail the old method of excision by the perineum—a method which might occasionally be selected; but his description of the sacral route is so meagre that we defy any surgeon who has not previously performed that operation, and who took up Mr. Harrison (Cripps' work with the object of learning as far as possible how the operation should be done, to make an attempt to excise a rectum with the smallest prospect of success from the description he had read. In describing the transsacral method of excision we find the following sentence:—"The sacrum is sawn across at a height of two to three inches and removed. By care, and not cutting too high, the sacral plexus is safe." The sacral plexus, as a whole, will be safe, but what about the nerve supply to the bladder?

In a work purporting to be a treatise upon a special subject

the reader expects to get full and accurate details of operative procedures commonly and generally practised, with some authoritative statement of the author as to his opinion upon, and experience of, their relative merits. Nothing of the sort will be found in the work before us, and we regret being compelled to state that in our opinion this volume has not been revised as it should have been, and certainly falls far short of the modern requirements of a text-book on a special subject.

4. THE remarks we felt compelled to make with respect to the work on "Diseases of the Rectum and Anus" apply with equal force to Mr. Harrison Cripps' Jacksonian Prize Essay on "Cancer of the Rectum."

5. THE small manual before us comes well up to the standard of usefulness we are accustomed to expect from the pen of Mr. Mayo Robson. The book is what it is intended to be—eminently practical and useful. An extremely important point is that of the diagnosis of cancerous growths from inflammatory swellings which simulate them so closely, both in symptoms and in appearance, when exposed by operation, yet the author can only reiterate the experience of every surgeon to whose lot it falls to open abdomens frequently for gastric disorders. All the points upon which surgeons are accustomed to rely in making a diagnosis will be found at fault by no means unfrequently.

A chapter is devoted to the simple tumours of the stomach that may be mistaken for cancer. Amongst such may be mentioned "Inflammatory Swellings around an Ulcer," "Plastic Linitis"—by which is somewhat definitely understood a condition of chronic induration and thickening of the walls of the stomach, with a marked diminution of the gastric cavity—"Adenoma," "Lymphadenoma," "Myoma," "Lipoma," and "Cysts," all of which except the first-mentioned being very rare indeed.

Though devoted to cancer in the main, we find a short chapter on sarcoma of the stomach. There is but one point we should be inclined to criticise adversely, and that is the description of the method of union of the cut duodenum to the cut end of the stomach after the growth has been

removed. Billroth's procedure is practically given up by the junior school of surgeons as being undesirable on account of the difficulty of suturing with certainty against leakage, &c., but we fail to see wherein the use of a bone bobbin will aid materially in the performance of this direct anastomosis. Bobbins and buttons had their day, and served their purpose so far as gastric and intestinal surgery are concerned. We can conceive a condition in which a button might still be advantageously employed to effect an anastomosis between portions of the intestine, but we think bobbins are useful only for the museum.

In describing the removal of portion of the stomach for cancer at the pylorus, we find the author says between clamps the stomach is divided one inch or more beyond the proximal side of the growth. We should certainly say "more," and drop out the "one inch," which, in accordance with what we know of the lymphatic distribution in the stomach and our modern knowledge of the mode of spread of cancer by lymphatic permeation, is too small a margin to leave between the cancer and the stomach section.

On the whole, as we said already, the book comes well up to the standard of practical utility we are accustomed to expect from our acquaintance with Mr. Mayo Robson's writings.

The book can be strongly and confidently recommended to physician and surgeon alike.

6. It is quite unnecessary for us to say more than mention that the fifth edition of Sir Frederick Treves' universally well-known work on "Surgical Applied Anatomy" has appeared, and that it has been thoroughly revised and brought well up to date by Dr. Arthur Keith, of the London Hospital.

7. THE volume on General Surgery of the Practical Medicine Series before us, like its predecessor of last year, contains an epitome of all the most important contributions of the year to surgery.

The Editor of this volume has performed the task allocated to him in a most commendable and thoroughly efficient manner. No surgeon who wishes to keep abreast with the advances that are taking place from year to year in surgery

can afford to be without the Volume on Surgery of this special Year-Book Series. This is the second year of its existence, and we venture to predict for it a phenomenal success if produced in future years as it has been during the past two years.

Messrs. George Gillies & Co., Glasgow, are the sole agents for the series in Great Britain.

8. THE more we read over the volume before us the more confirmed become the impressions we first formed of the merits of this Manual of Surgery by Mr. Alexis Thomson and Mr. Alexander Miles. The book is eminently practical and thoroughly up to date, while it is one of the most reliable and readable books the student or general practitioner could possess. The book reflects credit upon the authors, and well maintains the reputation of the Edinburgh School for the soundness of its teaching. We most cordially recommend the manual (the second volume of the revised second edition of which lies before us) to the perusal of every student desirous of finding nicely expressed everything of importance in connection with modern general surgery.

Post-Graduate Clinical Studies. By HAROLD SCOTT, M.B.
Lond.; Fellow of the Royal Institute of Public Health, &c.
London: H. K. Lewis. 1907.

WE have read with some interest this volume, which, according to its title, is intended for the edification of the general practitioner, and is apparently, for the most part, a collection of papers which the author has from time to time read at different medical societies. Our criticism on the entire collection of eight papers is that they form a most readable account of interesting cases such as are to be met with every day in hospital practice, and that they deal in an eminently pleasant fashion with problems of diagnosis which confront every practitioner of medicine more or less frequently. They do not, however, as far as we can see, contain anything that is new, nor do they deal with much that is not a subject of clinical teaching in any first-class medical clinic, and we consequently question the value of the collection in book

form. As a separate paper in the weekly journals, any one of the articles might take its place in ephemeral medical literature, and be read with interest, but only a few out of the many published articles are worthy of being imbedded in their entirety between the more permanent covers which are connoted in the English idea of a book. Curiously enough, also, the writer has added a ninth paper on a subject that is not of interest to the lay practitioner at all, and has given sixty out of a total of 166 pages to its discussion. We refer to the article on "Syphilis in the Army," which, with its thirty-five added charts and tables, occupies one-half of the entire bulk of the book. The eight preceding papers deal with such subjects as the Diagnosis of Disseminated Sclerosis; Diagnosis of Subphrenic Abscess; Differential Diagnosis between Cerebral Hæmorrhage, Embolism and Thrombosis; and the importance of the examination of the Fæces. As already stated, they are interesting and readable, and contain in pleasant form facts which for the most part can be read in shorter compass elsewhere.

The Technique of Vagino-peritoneal Operations. By E. WERTHEIM and TH. MICHOLITSCH. Translated into English by CUTHBERT LOCKYER, M.D., F.R.C.S.; Consulting Gynæcologist to St. Mary's Hospital for Women and Children; Obstetric Physician to Out-patients, Great Northern Central Hospital; &c., &c. Pp. 323. With 138 Illustrations. London: Macmillan & Co. 1907.

ANY gynæcologist who is ignorant of the German language owes a debt of gratitude to Dr. Cuthbert Lockyer for his translation of this work, which is most original, and possesses a very high value as a means of successfully teaching the different steps of vagino-peritoneal operations. The book consists of 138 photographs, with just the necessary amount of letterpress to describe the steps of the operations depicted. The illustrations are so arranged as to demonstrate each operation step by step, and the authors claim that they enable the technique of an operation to be understood in the clearest manner even without the aid of any letterpress.

Professor Wertheim's photographs are admirable, and he

has to a great extent overcome the difficulties in the way of taking such photographs satisfactorily. Still, they are photographs, and, as such, can never be as clear as are original drawings. It is impossible to clear up small points in a photograph, and, if proof of this statement is required, it is only necessary to note the extreme difficulty which even a highly skilled artist finds in making accurate drawings from photographs alone. Exactly the same difficulty is experienced by the student in understanding the exact points shown in a photograph. Want of definition can be overcome by care, but want of contrast cannot be overcome by any means of which we have ever heard. Therefore we venture to express the hope that the sale of Professor Wertheim's book may be sufficient to warrant him in incurring the expense necessary to convert his photographs into wash drawings, in which not only the clearest detail but all necessary contrast can be obtained.

Proceedings of the Royal Society of Medicine. Vol. I. Nos. 1 and 2. November and December, 1907. Edited by JOHN NACHBAR, M.A., M.D., under the direction of the Editorial Committee. London: Longmans, Green & Co. 1907.

WE have received the first two monthly numbers of the new Royal Society of Medicine, formed by the amalgamation of no less than fifteen London medical societies. These, beginning with the Royal Medical and Chirurgical Society, which celebrated its centenary in 1905, and ending with the Therapeutical Society, which was founded as recently as 1902, were incorporated as the Royal Society of Medicine by Royal Charter granted last year (1907).

The Editor informs us that a number of the "Proceedings" such as those now before us will be published on the last day of each month, from November to July, inclusive. The several Sections are arranged alphabetically, and, in order to facilitate the binding of the annual volumes, are independently paged. By cutting the thread which fastens the reports of the respective Sections these reports may be detached, and, if desired, kept until the end of the session.

At the end of the year a title-page and index for each Section will be published, and may be obtained (with binding-cases) from the printers, Messrs. John Bale, Sons and Danielsson, 83 to 91 Great Titchfield Street, London, W.

The Council of the Society have, we understand, decided to send the whole "Proceedings," as issued, to each Fellow or Member.

The first number opens abruptly, without any introduction; it plunges *in medias res* with a report of the first meeting of the Clinical Section held on October 11, 1907. Sir Thomas Barlow, Bt., K.C.V.O., President of the Section, was in the chair, and 'opened the proceedings of the Section with a Presidential Address, in which he reviewed the work done for Medicine by the Clinical Society of London, "of which," said he, "our Section is the lineal representative," during its existence of close upon forty years. He recalled the fact that from its start the primary object of the Clinical Society was recognised as the record, investigation, and discussion of *individual* cases—"it was resolutely concrete."

Eleven Sections are reported in the first number of the "Proceedings." Probably the most interesting to Irish readers of all the communications will be Dr. A. Newsholme's Presidential Address to the Epidemiological Section on "Poverty and Disease, as illustrated by the course of typhus fever and phthisis in Ireland." We take the opportunity to congratulate this distinguished sanitarian on his recent appointment as Medical Officer of the Local Government Board for England and Wales. There is no doubt that he will prove a worthy successor to such men as Sir John Simon, Sir George Buchanan, Sir Richard Thorne Thorne, and his immediate predecessor in office, Mr. William Henry Power.

At the October meeting of the Medical Section an important discussion on "Pneumonia and its Compliments" was introduced in a thoughtful Address by Dr. Hector Mackenzie, F.R.C.P., Physician to St. Thomas's Hospital. It was continued at the following meeting of the Section on November 5, 1907. To the report of that meeting are appended most valuable statistics on the subject, compiled at the various London hospitals to provide a basis for the discussion. Such a full-dress debate cannot fail to instruct, and speaks trumpet-

tongued for the utility of an institution like the Royal Society of Medicine.

At the November meeting of the same Section Dr. Alfred E. Russell read a paper on the "Pathology of Epilepsy." The author submitted that the theory that a sudden failure of the cerebral circulation is the immediate factor in the genesis of epileptic and many other convulsive fits is worthy of reconsideration. The author adduced a remarkable array of facts in support of his contention that sudden failure of the cerebral circulation is associated with unconsciousness and convulsive seizures. This is recognised in the case of the seizures which occur in conditions of bradycardia and arrhythmia, when the seizures obviously depend upon the failure of the heart rhythm. Gradual failure of the cerebral circulation is not associated, as a rule, with convulsions, but rather with coma. In uræmia the onset of cerebral symptoms may be either gradual or sudden, and convulsions may occur indistinguishable from those of idiopathic epilepsy. Dr. Russell submitted that he had given evidence in his paper which correlates the coma and the convulsions to a gradual or sudden failure of the cerebral circulation.

In the Pathological Section on November 19th, Mr. S. G. Shattock, the President, with the co-operation of Messrs. C. G. Seligmann, L. S. Dudgeon, and P. N. Panton, made an important contribution to the study of the relationship between avian and human tuberculosis.

Such is the work which is being done by the Royal Society of Medicine, to which we wish a long and prosperous career.

A Short Manual for Monthly Nurses. By C. J. CULLINGWORTH, M.D. London: J. & A. Churchill. 1907.

For monthly, perhaps more than for other, nurses it is always useful to have a handbook of undoubted authority to which reference may be made. The above little manual seems most practical and useful in many respects. Some details in the first chapters seem unnecessary to the trained nurse in these days of long and thorough training, and, indeed, even during her short training, one would think a monthly nurse would learn these essentials. In fact, for twentieth century readers,

the substance of the preliminary remarks seems antiquated, unless Mother Gamp is not lying in her grave, as one supposed. The manual, nevertheless, contains many directions for obstetrical nursing, clearly set forth. The chapter on antiseptics and the succeeding chapters, including the Appendix, are especially good and are certainly worth the small sum of 1s. 6d. to monthly nurses, whether trained in a general hospital or not.

A Handbook of Skin Diseases and their Treatment. By A. WHITFIELD, M.D. London: E. ARNOLD. 1907. Pp. 320.

ALTHOUGH there are so many large monographs on dermatology Dr. Whitfield, with the natural ambition of an author, believes that there is still a place for a concise book suited to the needs of the student and the general practitioner.

It can scarcely be said that no concise text-books exist, for it will be difficult for anyone to produce a better or more helpful book than Sir Malcolm Morris' excellent manual; and Dr. Norman Walker's unpretending volume is also very useful as to therapeutic hints.

There is little called for in the way of special review. The author supplies a fairly comprehensive account of most of the affections of the skin, and aims at giving a foremost place to treatment. He has taken care to embody the investigations and methods of clinical research introduced by Sir A. Wright, in so far as opsonic methods apply to dermatological practice.

The illustrations are all from untouched photographs taken by the author, and are as good as uncoloured illustrations allow.

The Influence of the Menstrual Function on Certain Diseases of the Skin. By L. DUNCAN BULKLEY, M.D. London: Rebman. 1906. Pp. 108.

DR. BULKLEY is an industrious and prolific writer on cutaneous diseases: but, if we may venture to say it, his writings, which are essentially clinical in character, are somewhat lacking in the critical spirit. Circumstances which to some would appear mere coincidences assume in his eyes substantial evidential value.

Most physicians would agree that there is some obscure relationship between a woman's sexual functions, of which menstruation is one, and the skin, but it is very difficult to formulate exact statements in this connection. Dr. Bulkley has assiduously collected a considerable number of observations made by many authors in various countries, and discusses the theories which have been advanced, but in the end leaves us much as we were before.

Gynæcology and Abdominal Surgery. Edited by HOWARD A. KELLY, M.D., F.R.C.S. (Edin.), Professor of Gynæcological Surgery at the Johns Hopkins University; and CHARLES P. NOBLE, M.D., Clinical Professor of Gynæcology at the Women's Medical College, Philadelphia, &c., &c. Illustrated by Hermann Becker, Max Broedel, and others. Vol. I. W. B. Saunders Company. 1907. Pp. viii + 851.

THIS work presents many features which are quite new, so far as English and American medical literature is concerned. In the first place, the book is, we believe, the first in which both gynæcological surgery and the general surgery of the abdomen are discussed. This fact will be more apparent in the second volume of the book, as in the volume before us gynæcological surgery is alone dealt with. In the next place, a large part of a work on surgery has been devoted to "medical gynæcology, to meet the needs of the general practitioner." We doubt the advantage of this course. It is possible that the American general practitioner will consult a large work on operative abdominal surgery for information on the causes of amenorrhœa or for directions as to the mode of inserting a pessary, but none the less such information is a mere make-weight in a book of this kind, and, further, a most unnecessary make-weight. In addition to these chapters, other chapters have been devoted to the bacteriology and pathology of the diseases of women, and the editors state that they "believe that no other monograph on pathology as complete as this has as yet appeared in the English language." The monograph in question consists of about 130 pages, almost half of which are occupied by illustrations. As the entire subject

of gynæcological pathology is discussed in these pages, we cannot understand how it can be so very complete as the preface would lead one to believe. Further, it is altogether out of place in a work on gynæcological surgery. Other special features which the book presents are more worthy of praise. Thus, certain obstetrical subjects have been considered, such as extra-uterine pregnancy and Cæsarean operations. Further chapters are included dealing with such important subjects as operations during pregnancy, operations before puberty, and the complications of operations. Such chapters are distinctly pertinent to a work on surgery.

The operative portion of Volume I. deals very fully with the whole subject of gynæcological operations, and is magnificently illustrated. Amongst the contributors are Howard Kelly and Noble (the joint editors), Edebohls, Skene, Byford, Webster, Baldy, Clarke, Werder, Henrotin, and Hurdon. One of the most interesting chapters is that by Clarke on the "Radical Abdominal Operation for Cancer of the Uterus." Other chapters of great interest and value are those on "Hysteromyomectomy and Myomectomy" by Noble, and on "Hysterectomy for Inflammation of the Uterine Appendages" by Baldy.

If we are to judge the book by its first volume we have no hesitation in saying that it is very far ahead of the ordinary American gynæcology, of which, perhaps, we are getting a little tired in these countries. The works of Howard Kelly, however, are always certain of welcome and approval, and the fact that he has individually written a large portion of the volume before us is a sufficient guarantee of its value to the gynæcologist or the abdominal surgeon.

Anatomical Terminology, with special reference to the [B. N. A.].

By LEWELLYS F. BARKER, M.D.; Professor of Medicine, Johns Hopkins University, Baltimore. With Vocabularies in Latin and English and Illustrations. London: J. & A. Churchill. 1907.

ALL who desire to see uniformity in anatomical nomenclature will welcome Professor Lewellys Barker's attempt to popularise the anatomical names proposed and accepted in 1895 by the

anatomists who met at Basle. The list, which is now well known, contains some 4,500 terms for the various parts of the human subject visible to the unaided eye. The Committee entrusted with the selection of these names adopted in most cases the shortest and simplest of the names then in use, and expressed them in correct Latin. One name only was selected for each structure, although in a few cases the names of anatomists usually associated with certain parts, or structures, were retained and placed inside brackets after the Latin title chosen.

The enormous advantage to be gained by the universal adoption of the "Basle Nomina Anatomica," or the "B. N. A.," as it is shortly called, can scarcely be exaggerated. When one remembers that in our English text-books it is not uncommon to find three or more names for the same structure, and that this is also the case in the text-books of other languages, one can easily recognise how the work of students and teachers is needlessly increased, and how much difficulty and how many sources of error might be removed by the use of only universally approved names and terms.

In Germany the "B. N. A." has received acceptance for some years, in America each year we find it more and more widely adopted, and our standard English text-books show plainly that its adoption in this country is only a matter of time.

The publication of the list of names and of the excellent case made out by Professor Barker in favour of their adoption is likely to assist in bringing about the desired result, by calling the attention of others besides anatomists to the importance of the matter.

On Treatment. By HARRY CAMPBELL, M.D. London :
Baillière, Tindall & Cox. 1907. Pp. 421.

THE title of this work is somewhat misleading, for it makes no pretence to being a treatise on either general or special therapeutics. It is rather a miscellaneous collection of essays and of popular articles on medical ethics, interspersed with many valuable practical hints and suggestions furnished by a thoughtful man of wide experience, and conveyed in a

bright and entertaining style. To show the discursive nature of the book it is only needful to quote a few of the headings of the chapters—*e.g.*, Quackery, Habit, Psycho-therapeutics, Clothing, Exercise, Rest, Mastication, Diet, &c.

The book would form an excellent and enlivening companion for leisure moments or a summer holiday, and contains much which, if not exactly new, is forcibly and withal pleasantly driven home.

A Manual for Hospital Nurses. By EDWARD J. DOMVILLE, L.R.C.P. Lond., &c. London: J. & A. Churchill. 1907.

WE look upon "Domville" as a time-honoured friend. We have found it so useful in our day that we welcome this ninth edition with its addition of many up-to-date methods and its useful remarks on massage and electricity. It is, indeed, a most useful book for the would-be candidate or new probationer, for it treats of nursing ethics as well as giving an excellent glossary, table of weights and measures, and an explanation of Latin terms with the abbreviations used in prescriptions, all of which the new probationer finds so difficult to grasp and understand. This manual should be among the treasured possessions of everyone having to deal with the sick and ailing.

The Influence of Cod-liver Oil upon the Nutrition of Tuberculous Pigs. By J. W. WELLS, M.D., F.C.S., Manchester. 1907. Pp. 83.

THE well-planned experiments herein recorded were conducted at the Public Health Laboratory of the University of Manchester under the supervision of Professor Delépine. They go to prove that cod-liver oil may be looked upon as something more than a mere food for the consumptive.

Dr. Wells speaks highly of Scott's Emulsion, which he considers to be the best preparation of its class. He finds that it never separates on standing, but remains so perfectly emulsified that it can be drawn readily through a capillary tube until the bottle is emptied. Dose for dose, he believes that the experiments demonstrate that this emulsion is greatly

superior to cod-liver oil. The records of the experiments are presented in the form of sixteen tables, and the results obtained are interesting. The most important is thus stated:—“Pigs affected with tuberculosis continued to increase in weight, and appeared quite comfortable and happy for a long period, when the cod-liver oil emulsion was added to the usual diet. Their tuberculous lesions showed signs of possible recovery, tuberculous glands became fibrous and calcified, and the tubercle bacilli more difficult to demonstrate.”

The Skin Affections of Childhood. With special reference to those of more common occurrence and their Diagnosis and Treatment. By H. G. ADAMSON, M.D. Lond., M.R.C.P.; Physician for Diseases of the Skin, Paddington Green Children's Hospital; Physician in Charge of the Skin Department (formerly Physician), North-Eastern Hospital for Children; Assistant in the Skin Department, Westminster Hospital. Oxford Medical Publications. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E.C.

THIS little manual makes no pretence to being an exhaustive treatise, but is intended rather as a practical guide to the clinical study and treatment of skin affections in children, and in this respect it is admirably written. The author speaks throughout as a teacher expounding his art rather than as a writer exploiting his knowledge of the subject—a fault all too common in many text-books. Unnecessary details are everywhere avoided, and essentials of diagnosis and treatment are brought into strong relief. The plan of classification, original and well thought out, is easily grasped, and, although advancing knowledge may modify it, it is for the present decidedly valuable.

In the treatment of ringworm of the scalp by X-rays, the author makes no mention of the use of a parasiticide when the hair is falling out. In cases where a portion only of the head is exposed, such treatment is surely necessary to avoid reinfection. Again, in the description of favus, we find no mention of the characteristic odour which we are inclined to look on as of some diagnostic importance.

At pages 98 and 100 we find a few sentences almost verbally repeated, and at page 204 there is an obvious misprint of "hand" for "head."

The classification of ringworms is most clearly dealt with, and the author's views on the treatment of this disease, as also of lupus, make these chapters particularly readable.

Dr. Davidson makes a distinct entity of eczema. He denies the term to both the "seborrhœic" and "tubercular" forms, and holds the chronic form due to long duration rather than to a modification of the disease. He expresses no belief in the efficacy of arsenic in these obstinate forms.

To those who are often bewildered by the multiplicity of classification and theories and endless lists of drugs, so often to be found in treatises on skin disease, this manual will prove a boon.

Physical Methods in the Treatment of Heart Disease. By ARTHUR C. DAMPIER-BENNETT, M.R.C.S. Bristol: John Wright & Co. 1907. Pp. 111.

AN interesting account of the Nauheim treatment as it can be carried on away from Nauheim. Of the additional chapters that on "Diet" is suggestive, and that on "Drugs" helpful.

Preventable Blindness. An account of the Disease known as the Ophthalmia of the New-born, and of its Effects; with a Plea for its Suppression By N. BISHOP HARMAN, F.R.C.S. With Eight Illustrations. London: Balliere, Tindall & Cox. 1907. Demy 8vo. Pp. 120.

THIS is a very useful addition to the works on this most important subject, and will well repay perusal, not only for its chapters on history, diagnosis, and treatment, but also for its suggestions as to prophylaxis—the most important point of all. He advises that ophthalmia neonatorum should be made a notifiable disease under the Act, and with this suggestion we heartily agree.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.
General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF SURGERY.

President—SIR HENRY SWANZY, P.R.C.S.I.
Sectional Secretary—A. J. BLAYNEY, F.R.C.S.I.

Friday, November 29, 1907.

PROFESSOR E. H. TAYLOR in the Chair.

Intrameningeal Hamorrhage.

MR. P. ATKINSON STONEY presented a patient whom he had trephined for intrameningeal hæmorrhage. The following were the notes of the case:—Patient, L. M., aged forty-four, admitted to the Royal City of Dublin Hospital on Tuesday, September 3, 1907. History of falling on back of head in street while drunk the previous Saturday; he seemed none the worse at the time. On Sunday evening began to get drowsy and stupid; this condition was increased on Monday. On admission he was dazed and stupid; he could not speak properly; started to answer a question, and then began to talk nonsense; pupils were equal, contracting to light; pulse, 65-70; temperature, 99°; very restless; no mark of injury; complained of pain in right occipital region; reflexes normal. On Thursday patient seemed better; speaking more distinctly; still very restless. Continued to improve till Tuesday, 10th, when he began to get drowsy and stupid again. He was worse on Wednesday. On Thursday morning quite unconscious; pulse over 100; colour somewhat blue; pupils equal; very sluggish. In the middle of day pupils very small, equal, not

reacting; pulse over 120 and very weak; moving all his limbs; knee-jerks absent; Babinski's sign present on both sides; saw patient twitch right arm once; did a lumbar puncture, and drew off a test-tube full of clear fluid; slightly relieved by this, for about half an hour, then got worse again. Trephined over left parietal eminence; dura mater bulging, dark blue, and not pulsating; on opening it found a thin layer of clot and dark fluid blood; could not feel any laceration or fracture, though felt both petrous portion of temporal bone and orbital plate of frontal. At end of operation pupils were larger, reacting to light, and brain pulsating; pulse, however, was bad, but improved after infusion of three and a half pints of saline solution; patient was better in the evening; swallowed a few mouthfuls of milk with difficulty. On the next day (Friday) pupils were reacting; complete paralysis of right arm was found; knee-jerks absent; plantar reflexes normal; pulse varying from 100 to 120. On Saturday, very bad in early morning; at 1 30 pulse was 140 and very weak; bad colour, and respirations bad; dressed the case, flap was very prominent, not pulsating; on taking down the flap, found no clot, but brain was prominent and not pulsating; vessels were congested; put a needle about two inches into brain and drew off test-tube full of clear fluid under considerable tension: brain receded somewhat and pulsated feebly; eyes reacted better; pulse and colour were better. When dressed next day, flap not so prominent; appeared slightly conscious; recognised wife and brother. Gradually improved, and began to use right hand on Tuesday. On following Sunday a note to say can use right arm well. At present patient appears in perfect health: normal movement of arm; but some difficulty in pronouncing some words and complete inability to read, though able to write and recognise all objects.

THE CHAIRMAN asked if there was any hæmorrhage going on during the operation, and whether it was on account of the oozing of blood that the drainage tube was introduced? He was also anxious to know if Mr. Stoney's view of the bulging of the brain afterwards was that it was due to distension of the lateral ventricle, or whether he considered there was any œdematous condition of the brain tissue itself. Mr. Stoney had not stated the cause of the marked depression of the scalp over the area corresponding to the part that had been removed.

MR. BLAYNEY said the case was a puzzling one in view of

the history that had been given. The typical history of intrameningeal hæmorrhage was that the patient became unconscious, and did not become conscious again; but in the case before them the patient did not lose consciousness when he met with the fall. One would imagine that violence sufficient to produce hæmorrhage inside the skull would have caused unconsciousness. Then there was a prolonged period in which there were no signs of increased intracranial tension. He thought the bulging of the brain after the operation was due to some inflammatory phenomenon.

MR. STONEY, in reply, said he had brought the case forward in the hope of eliciting some explanation of the sequence of events, as he had to confess he found it difficult to do so himself. The history had been difficult to obtain, as the man was drunk at the time of the accident, as well as everyone who was with him. So far, however, as he could make out, there was no loss of consciousness at the time of injury. When the signs of increased pressure began to appear, he thought it was the commencement of œdema of the brain, and he was under the impression that operation offered little hope of improvement, but he felt that the localising signs justified an attempt to find out their cause. On opening the dura mater there appeared to be no fresh hæmorrhage, and on exploration he could find no laceration and no fracture. He was doubtful as to whether the hæmorrhage occurred at the time of the injury, the symptoms of increasing compression being due to œdema of the brain, or that the hæmorrhage had occurred later on and was producing the symptoms of pressure by itself. He thought the protrusion of the brain was mainly due to the collection of fluid in the lateral ventricle. A useful point in the case was the fact that it showed that the descriptions in the books of typical cases of intrameningeal hæmorrhages could not be entirely relied upon. It showed also that cases of head injury should never be looked upon as hopeless.

Talma-Morison Operation for Hepatic Cirrhosis.

MR. W. I. DE C. WHEELER exhibited a case of ascites from hepatic cirrhosis cured by the Talma-Morison operation performed three years ago. The patient had been frequently tapped before the operation, and drained through an exploratory laparotomy wound, but without any beneficial result. For about three weeks after the epiploxy fluid collected, and a small amount has persisted, getting neither more nor less for

the past three years. The patient, who weighed about seven and a half stones before operation, now averaged eleven stones. The amount of fluid withdrawn by paracentesis before the radical operation was performed approximated two gallons per fortnight for three months. Mr. Wheeler considered this case an ideal one for operation for the following reasons :—(1) Previous tappings and laparotomy failed to give relief ; (2) progressive emaciation and the appearance of slight jaundice was a warning against further delay ; (3) the exploratory laparotomy revealed an attempt by nature to anticipate the operation by the formation of adhesions ; (4) the liver was enlarged, not atrophied, and therefore sufficient liver cells remained to carry on life : (5) there was an absence of any cardiac or renal complication. The great number of successful cases recently published were referred to, and the absence of the true “ hob-nailed ” liver and of an alcoholic history in so many cases commented upon. Mr. Wheeler considered that the efficacy of the operation was no longer in doubt.

MR. HAUGHTON said his experience of the operation was limited to two cases, which he described.

MR. R. C. B. MAUNSELL quoted a case in which the operation had proved unsuccessful, in which a markedly cirrhotic kidney was found at the *post-mortem*.

MR. BENSON asked if there was any cirrhotic condition in any other part of the patient's body, as he had seen a case of a lady who had cirrhosis of the lung eight or ten years previous to the condition of the liver coming on. He thought it might add to the patient's comfort if he were tapped to get rid of the fluid that still remained.

MR. STONEY and the CHAIRMAN also recalled cases of the operation.

MR. WHEELER, in reply, said the patient had nothing in the way of cirrhosis in any other organs, but the last time his urine was examined it showed signs as if he was getting cirrhosis of the kidneys. He was not inclined to do anything more in the case, as long as the man remained in his present condition. The fluid still remaining was the same in amount as it was at the time of the operation.

Appendicostomy for Mucous Colitis.

MR. SETON PRINGLE exhibited a case of mucous colitis in which he had performed appendicostomy some months ago. The

patient, a strong labouring man, with no sign of neurosis about him, sought treatment some two years ago for an uneasy burning sensation in the lower bowel and rectum, some pruritus ani, and the passage of a quantity of mucus in the stools. He was found to have hemorrhoids, and these were removed by operation, but he returned some two months later worse than ever, and now the whole motion was often composed of cylinders of mucus. A course of treatment, consisting in daily irrigation of the large bowel with astringents and antiseptics was then commenced, and persisted in for months, the patient at the same time being dieted and stomach sedatives, &c., being given by mouth. As the treatment resulted in no improvement Mr. Pringle performed appendicostomy last June in order to enable the whole large intestine to be systematically washed out. After giving a short history of this operation and describing its performance, Mr. Pringle pointed out that many cases of cure of mucous colitis by its aid had been reported, and so far no failures. Since last June the patient has washed out his own colon daily with various antiseptics, and latterly has been using argyrol—1 in 1000—in the morning and normal saline solution at night, but Mr. Pringle regretted to have to report that the condition was in no way ameliorated, and he regards the treatment in this case as a complete failure. In conclusion, he called attention to the fact that the bowel had been examined carefully with the electric sigmoidoscope and no gross lesion found, so that this is apparently a true case of mucous colitis and not one of those cases of ulceration, kinking, or growth which often so closely simulate this disease.

MR. MAUNSELL said he considered the operation a most useful one. He suggested that if the medical treatment did not cure the patient, an ileo-sigmoidostomy might be successful, in which case the excluded piece of gut could be resected subsequently.

MR. BENSON thought ipecacuanha might be tried.

THE SECRETARY thought that, notwithstanding recorded cases, the operation was not a very successful one in cases of mucous colitis.

DR. STEVENSON asked if any difficulty was experienced in keeping the aperture from closing, and whether the catheter was kept in the whole time?

DR. PUGIN MELDON said that a weak solution of peroxide of hydrogen would clear away any foreign matter in the intestines; mixed with borax and bicarbonate of sodium it might do some good.

MR. HAUGHTON instanced a case of operation for ventral hernia which caused the disappearance of colitis that had been treated for a long time medically without success, and he raised the question as to whether Mr. Pringle had satisfied himself that there was no reflex cause for the disease in this case.

MR. PRINGLE, in reply, said he would seriously consider the question of further operation if the suggested medical treatment proved of no avail.

Operation for Carcinoma of the Mouth.

MR. MAUNSELL presented the case of an elderly man on whom he had operated for a carcinoma of the floor of the mouth. By the time the patient presented himself for treatment the growth had involved the tongue, and was extensively adherent to the jaw. The operation consisted of removal of half the tongue and a portion of the jaw, extending from the neighbourhood of the middle line to the last molar tooth. At a subsequent date the lymphatic glands on the same side of the neck were exposed, from the angle of the jaw to the clavicle, and removed. At the latter operation very considerable trouble arose in connection with the taking of the anæsthetic, probably due to the removal of the elevators of the larynx at the previous operation.

THE CHAIRMAN said there was no doubt that the probability of permanent benefit from operation for cancer of the tongue was not at all great, particularly in such a case as that before them. He expected that Mr. Maunsell's idea was to make the man's life more endurable, supposing that glandular recurrence came on after the removal of the disease in the mouth. In operating on parts far back in the mouth he recommended the performance of a preliminary laryngotomy. He thought it enabled them to work more easily than when the patient had to breathe through the mouth. In a recent case, in which he had performed a preliminary laryngotomy, he found there was no anxiety about the hæmorrhage. Although Professor Kocher's recent method was only a modification of an old method, he considered it a great advance.

MR. WHEELER and MR. HAUGHTON spoke, and MR. MAUNSELL replied.

SECTION OF OBSTETRICS.

President—E. H. TWEEDY, F.R.C.P.I.

Sectional Secretary—HENRY JELLETT, M.D.

Friday, December 13, 1907.

THE PRESIDENT in the Chair.

New Instruments.

THE PRESIDENT showed, for DR. DUKE, a self-retaining tenaculum for cervix, and an apparatus for the rapid removal of swabs from a Playfair's probe.

DR. ASHE and DR. KIDD spoke.

Exhibits.

DR. HENRY JELLETT exhibited (a) uterus showing unusual thinning of the muscle of the fundus after pregnancy; (b) double carcinoma of the ovaries secondary to double mammary cancer. The first specimen, he said, was of interest, not on account of the condition for which it was removed, but for the condition found present after removal. The patient, who was thirty years old, was sent to him suffering from carcinoma of the vagina. There was a large patch on the posterior vaginal wall involving about the upper third of the vagina, and though it was separate from the cervix, it had a tendency to extend into the right fornix. The rectum was free. He considered the case was operable, provided he could operate by the abdominal route, and he decided to do so. The patient had had a baby four weeks before going into hospital. On the night before the operation her temperature rose to 104° F., and she got severe rigors. On the morning of the day of the operation her temperature was still 104° , and her pulse anything up to 140. Having to leave town, he was in a difficulty as to how to deal with the case; operation was contra-indicated, and so he thought it best to wash out the uterus and see if he could find the cause of the rise in temperature. Before doing so he passed a sound, and this passed into the abdominal cavity straight through the fundus, whose resistance was quite inappreciable. He did not like to leave a probably septic uterus with an opening into the peritoneum, and so he removed the uterus by the vagina and as much of the cancerous vaginal wall as he could. After the operation, he split the uterus to see

why the sound had gone through it, and he found that there was a cone-shaped excavation extending through the fundus almost up to the peritoneum. The rest of the wall preserved its normal thickness. Microscopical examination of the fundus showed no evidence of malignant growth. The only explanation he could offer as to the cause of the perforation was that the placenta had exercised an eroding influence on the uterus at one spot. The patient got better for a time, but died about two months afterwards of general metastases, plus weakness. The second specimen was two carcinomatous ovaries removed from a patient on whom Dr. Haughton had performed a double-breast operation about six months before. There could be no doubt that the ovarian tumours were secondary to the breast tumours.

DR. HORNE expressed great interest in the first case, as he had had to perform a similar operation recently on two patients, both comparatively young—thirty-two and thirty-four. In one case, when he traced the broad ligament into the left ovary, he found a mass of cancer, of which he would have known nothing if he had attacked the case by the vaginal method. Three months later she had symptoms of return, and he found another mass of cancer high up in the abdomen.

THE PRESIDENT exhibited a double pyosalpinx removed intact. He said the patient complained only of sterility. She had no pain, and she did not look ill. She was young, two or three years married, and had been sent to him to be curetted. He palpated the tumours, and diagnosticated double ovarian cyst: the uterus was felt lying between them. He was very much surprised to find that they were really very large tubes. They were taken out joined together and without difficulty. The point of interest was that he hoped he had thus cured the patient's sterility. There was one ovarian cyst, which was removed. The other ovary was resected, and a good sound piece left behind, together with healthy tube stumps.

Discussion on the Changes which have been suggested by the General Medical Council in the method of Teaching Practical Obstetrics.

SIR WILLIAM SMYLY opened a discussion on this subject. [His remarks will be found at page 81.]

[The attention of the General Medical Council has been directed for some considerable time past to the subject of the Instruction

of Students in Practical Midwifery. After consideration of reports on the question submitted by a Committee of the Council, of which Committee Sir John Williams, Bart., K.C.V.O., M.D., was Chairman, the following Resolutions were, on May 30, 1907, adopted by the General Medical Council :—

I. That the following be substituted for the existing *Recommendations* of the Council in regard to instruction in Midwifery :—

(1) Every Student before commencing the study of Practical Midwifery shall be required to have held the offices of Clinical Medical Clerk and Surgical Dresser, and to have attended a course of lectures on Surgery and Midwifery.

(2) Every Student shall be required *either*—

(a) To have regularly attended the indoor practice of a Lying-in Hospital, or the Lying-in Wards of a General Hospital, for a period of three months ; and after having received therein practical instruction in the conduct of Labour, under the personal supervision of a Medical Officer, to have conducted twenty cases of Labour under official Medical supervision ; *or*—

(b) To have conducted not less than twenty cases of Labour, subject to the following conditions :—

That he has, during one month, given regular daily attendance upon the indoor practice of a Lying-in Hospital or the Lying-in Wards of a General Hospital ; and that he has therein conducted cases of Labour under the personal supervision of a Medical Officer of the Hospital, who shall, when satisfied of the Student's competence, authorise him to conduct outdoor cases under official Medical supervision.

(3) No certificate that the Student has conducted the above-mentioned twenty cases of Labour should be accepted unless it is given by a member of the staff of a Lying-in Hospital or of the Maternity Charity of a General Hospital or of a Dispensary having an obstetric staff recognised for that purpose by the Licensing Bodies.

II. That the attention of the Licensing Bodies be called to the necessity, in the public interest, of instituting Clinical and Practical Examinations in Midwifery and Gynæcology in connexion with each of the Qualifying Examinations.—The Editors of the DUBLIN JOURNAL OF MEDICAL SCIENCE.]

DR. HORNE said the subject was of particular interest to Dublin, which was practically the home of obstetrics. The Dublin School, for a great number of years, had rightly insisted that the

course of study should be a comparatively long one, and the General Medical Council, in order to raise the standard of both England and Scotland, had offered to compromise with Dublin by suggesting that the period of study should be three months. The question of examinations was of great importance. There were great difficulties in the way of taking a number of students to a lying-in hospital to have them examined, but he believed with Sir William Smyly that the difficulty could be overcome. He did not see why men could not be brought for examination to a lying-in hospital just as they were brought to a clinical hospital for examination of the chest. A grave defect in the teaching at present was that the students had only to satisfy the registrars of the various licensing bodies that they had taken out their midwifery attendances. He would like to see men compelled to take out from forty to sixty clinical attendances during the three months. Midwives in Dublin were in a far better condition than students, as they were under the full control of the hospital; they were obliged to attend regularly day after day; they attended to the lectures, to the clinics, and they saw cases from day to day. The students did not do so. He thought they were all agreed as to the first recommendation of the General Medical Council. As to the second, a great difficulty confronted them. Annually in Dublin something like two hundred students had to take out their course of midwifery. If they simply attended for three months, it would be utterly impossible to supply them with material for each man to take out his twenty conductions. The period was too short. How it would be accomplished in England he did not know, but he felt that if they in Ireland were unanimous, and kept to their rules, they would be still far in advance of the recommendations of the General Medical Council, and would have nothing to fear from them. The Dublin school had up to the present been recognised as the principal obstetrical school in the United Kingdom, and he did not believe that the keeping up of their standard would cause a single pupil to leave the country.

DR. KIDD said he had always impressed on students the fact that when they were taking out their practical midwifery they were for the first time face to face with a practical side of their profession which involved the safety of two lives. He, therefore, agreed that every student should have the experience

recommended by the General Medical Council. He deprecated the desire to attend practical work before theoretical lectures. There was no subject in which it was more necessary to have a thorough knowledge of the theory before the practice was attempted. He thought the higher mortality in Ireland in obstetrics was due to the fact that while they could—to use Sir William Smyly's figure—bring the horse to the water and make him drink, they could not make him keep on drinking. It was an established fact that the mortality in the lying-in hospitals was lower than that of general practice in the country, notwithstanding that the dangers to a woman in a hospital were greater than those in private practice, and the cases were more morbid and serious. It was, therefore, forced upon them that the doctors and nurses did not carry out in general practice the same strict rules of asepsis as in the institutions where they were taught to do so. He thought that the practical aspect of examinations might be improved if it were made compulsory on students to have attended not only a number of cases in the house under the supervision of the medical officer, but also at the end of their period to give clinical notes of the whole course of the puerperium, for at least five cases. He thought that the education of the student should be such as to enable him to detect when any case was abnormal, or becoming abnormal, so that he might then know that he should seek the assistance of those placed in supervision over him. As regards the period of six months, he felt that a man who lived in the precincts of a hospital for one month would, in all probability, lay up a greater store of knowledge than one who attended a lying-in hospital two days in the week for three months. The midwives, under the present rules, had an opportunity of being trained in even a more practical way than the students.

DR. PUREFOY said they agreed that the clinical character in the examinations should be present in a greater degree than it had been, and an endeavour should be made now to bring it about. He suggested that some arrangement might be made with the Masters of the Lying-in Hospitals by which the Obstetrical Examiners of the Colleges might make a monthly visit, and have opportunity given to examine certain students. This would obviate the difficulty of carrying out the practical examination for a large number of students at one time. The additional advantages thus secured by the students was an important

consideration. He thought an effort should be made to develop the plan of encouraging students to reside, even for one month, in some of the maternity hospitals. He did not think they should be in a hurry to adopt the General Medical Council's recommendation as to three months' attendance, except, perhaps, to the extent of allowing a certain number of students, who might particularly desire to do so, to take out their number of cases in that period. He also thought that some practical advance might be made if a Committee of the Masters and Assistant Masters were formed to carry out some of the suggestions which had been made.

DR. HENRY JELLETT said the two points that appeared to him to stand out with special importance were the institution of practical examinations and the regulations governing students' practical instruction in maternity hospitals. With regard to the first, he would only say that, while he had no doubt as to its extreme advisableness, he had doubt as to its practicability at present. They were all probably agreed that the recommendations of the General Medical Council were extremely good, with the exception of the alteration in the course of attendance at maternity hospitals from six to three months. In Ireland such an alteration would shorten the present course, whereas in England and Scotland it would raise it to a much higher standard than before. He was quite aware that the present state of affairs was open to the objection that all students did not attend the full course. This fact was due to the regulations of the licensing bodies, which regulations were capable of improvement, though they were very many degrees ahead of the regulations on the other side of the water, and considerably ahead in their potential capacities of the recommendations of the Council. They all wanted to teach students properly, both to maintain the reputation of the school, and, still more, that students might be sent out with a proper training. Why, then, should they limit themselves to what was practicable on the other side of the water? A three months' course presented the great practical difficulty that students could not be given their twenty cases in so short a time. Students had a habit of going to maternity hospitals at certain months which were free from examinations and lectures, and if limited to a three months' course, a student would frequently be unable to complete his necessary number of attendances or conductions, and the onus would then be

thrown on the hospitals to provide cases and to provide extra time. He thought that an intimation from the hospitals to Colleges as to the impracticability of providing twenty cases for every student in three months would show the difficulty of the matter to those who did not understand it. It was absurd to think that students would be driven out of the country by the present system, since the difference between the courses in Ireland and in Great Britain will be lessened instead of being increased. He thought the Section might suggest to the Colleges, in a resolution, that some more definite regulations should be laid down to govern the attendance of students at maternity hospitals. In the recommendations of the General Medical Council the student is required to attend regularly for three months, but there is no definition as to the meaning of the word "regularly." He thought that if the Colleges adhered to their six months' course, and made some attempt to define regular attendance, they would not only maintain, but enhance, the reputation of the Dublin school, and would make the obstetrical training of the greatest value to the student.

DR. ROWLETTE said that the medical curriculum seemed at present to be over-weighted, and if any part of it was to be increased other parts would have to be diminished, and the clinical teachers must impress on their brethren who taught the more purely scientific branches at the beginning of the course that that part must be cut somewhat short. The reason why the student took the minimum quantity of instruction in midwifery and gynaecology was that he was worn down by the earlier studies which were made so great and difficult that his clinical work was often crowded into the last eighteen months. If teachers of anatomy and physiology were capable of doing their duty, botany and zoology were unnecessary. There were certain faults in the final examinations in midwifery and gynaecology, which being taken away the subjects would be more attractive to students: one was the excessive amount of surgery required by the gynaecological examiner; it was no part of the duty of an ordinary medical practitioner to be able to perform highly technical operations. If the student was going to be a specialist he must make up his work after his qualifying examination, not before it. He was only referring to highly technical operations; operations of emergency must, of course, be within the knowledge of every medical man. As to the high mortality in private

practice, he thought it might be explained by the fact that more cases of childbirth were left unattended by medical men in Ireland than in England. It was also quite impossible for a medical man to practise the same aseptic precautions in a country cottage as in a hospital.

DR. TREVOR SMITH said that much of the fault for the existing state of things lay in the fact that many of the nurses turned out were of a very inferior class. Illiterate nurses who did not know the use of the thermometer were often left in charge of women without the assistance of a medical man. He was not referring to the handy-woman, but to so-called nurses who held diplomas.

THE PRESIDENT said Sir William Smyly had reminded them that the Royal Colleges had not always behaved with wisdom in matters obstetrical, and thus misjudged action in the past had deprived us of the advantages derived from the Central Midwives Act. It was pleasant to see with what unanimity the members of the Obstetrical Section opposed the suggested curtailment of the period at present deemed necessary for attendance at maternity hospitals. Outside this Section he regretted to say that many teachers were of opinion that a six months' course of study of midwifery and gynecology was quite unnecessary, and unless energetic action was taken he much feared that the Royal Colleges would cut down the course to three months. He was certain this step, were it adopted, would make it very difficult for the maternity hospitals to deal with the number of patients they at present attend. He agreed that the present regulations of the licensing bodies in respect to midwifery required alterations, but the change should not be a retrograde one. These bodies should determine in the first instance precisely what they mean by an attendance for six months. If they do this they may rely upon the hospitals to enforce their regulations. At present the six months' attendance was interpreted in a very loose manner by some students, and those who desired to evade the course could, to a large extent, do so. On the other hand, many men considered it a great privilege to be permitted so long a course, and it was to these men we look to sustain the future reputation of the Dublin School of Obstetrics.

It was then proposed by SIR WILLIAM SMYLY, seconded by DR. JELLETT, and passed unanimously :—"That the Obstetrical Section of the Academy of Medicine regards the recommendations

of the General Medical Council regarding Obstetrical teaching as, in many cases, a very great advance on the present conditions. The Section, however, considers that the suggested alteration of the period of attendance on a maternity hospital from six months would not be advisable or practicable. The Section considers that instead of reducing the attendance the licensing bodies should adopt such regulations as will insure regular attendance of students at the clinical teaching of the hospitals. With regard to the adoption of a practical examination in midwifery and gynæcology, the Section considers that such a step is most desirable, and urges its members to aid it by all means in their power."

DR. PUREFOY then proposed, DR. KIDD seconded, and it was passed unanimously :—"That a Committee consisting of the Masters and Assistants (past and present) of the Dublin Maternity Hospitals be appointed for the purpose of urging upon the licensing bodies the inadvisability of changing the course of practical Obstetrics from three months to six months."

CHILBLAINS : TWO USEFUL PRESCRIPTIONS.

I.—THE following application forms a protective skin, not unlike collodion, on the surface of the chilblain :—R. Acidi tannici, ʒii; spiritus vini. rect., ʒiv; acidi carbolici, ℥ xxiv; aquæ, ad ʒi. Solve. Sig. : Paint on the chilblains night and morning. II.—A cream which acts as an agreeable and efficient stimulant to the circulation is as follows :—R. Menthol, gr. 15; methyl. salicylatis, ʒii; *adipis læ* hydrosi, ʒvi; Misce. Sig. : Apply a small quantity frequently, rubbing in gently until absorbed.—*The Prescriber*, January, 1908.

ointment FOR HEMORRHOIDS.

THE following ointment is recommended by Vaquez (*Journal de Méd. de Paris*) :—R. Cocaïn. hydrochlor., gr. ss; liq. adrenalin (1 : 1000), ℥ xxx; *paraffini mollis*, ʒi. Misce. Fiat unguentum. Sig. : "To be applied several times daily."—*The Prescriber*, January, 1908.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, December 28, 1907.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending December 28, 1907, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 19.8 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,117,547. The deaths registered in each of the four weeks ended Saturday, December 28, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Dec. 7	Dec. 14	Dec. 21	Dec. 28			Dec. 7	Dec. 14	Dec. 21	Dec. 28	
22 Town Districts	24.2	22.9	23.3	19.8	22.5	Lisburn	27.3	9.1	18.2	22.7	19.3
Armagh	13.7	34.4	13.7	20.6	20.6	Londonderry	25.8	13.5	17.2	7.4	16.0
Ballymena	28.7	23.9	4.8	14.4	18.0	Lurgan	17.7	35.4	44.3	17.7	28.8
Belfast	26.9	26.3	24.2	23.9	25.3	Newry	16.8	25.2	33.6	29.4	26.2
Clonmel	5.1	20.5	35.9	5.1	16.7	Newtownards	11.4	11.4	22.9	—	11.4
Cork	15.8	18.5	19.2	12.3	16.5	Portadown	20.7	5.2	31.0	20.7	19.4
Drogheda	16.3	28.6	24.5	24.5	23.5	Queenstown	6.6	19.8	13.2	13.2	13.2
Dublin (Reg. Area)	26.7	22.3	25.0	19.8	23.4	Sligo	9.6	28.8	—	4.8	10.8
Dundalk	12.0	19.9	8.0	8.0	12.0	Tralee	—	42.3	10.6	10.6	15.9
Galway	27.2	—	27.2	38.8	23.2	Waterford	21.4	25.3	9.7	25.3	20.4
Kilkenny	9.8	—	24.6	24.6	14.8	Wexford	42.0	14.0	18.7	28.0	25.7
Limerick	20.5	27.3	32.8	10.9	22.9						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, December 28, 1907, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in sixteen of the districts to 11.7 in Galway, the 10 deaths from all causes in that district including one from diphtheria and 2 from *pyrexia* (origin uncertain). Among the 170 deaths from all causes registered in Belfast are 11 from measles, one from typhus, 3 from whooping-cough, 3 from diphtheria, 3 from diarrhoeal diseases, 3 from cerebro-spinal fever, and one returned as from *cerebro-spinal meningitis*. The 8 deaths from all causes in Limerick include 2 from measles, and of the 4 deaths from all causes in Lurgan one is from diphtheria and one from diarrhoea.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 390,691, that of the City being 300,850, Rathmines 35,606, Pembroke 27,854, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, December 28, 1907, amounted to 123—65 boys and 58 girls; and the deaths to 155—71 males and 84 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 20.7 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the Area, the rate was 19.8 per 1,000. During the fifty-two weeks ending with Saturday, December 28, the death-rate averaged 24.3, and was 1.0 below the mean rate for the corresponding portions of the ten years, 1897–1906.

The deaths registered, in number 155, include one death from scarlet fever, 2 deaths from whooping-cough, one death from diphtheria, and one death from enteric fever. In the 3 preceding weeks, deaths from scarlet fever were one, 0, and one; deaths from whooping-cough were 3, one, and 2; deaths from diphtheria were 2, 3, and 3; and deaths from enteric fever were 2, 0, and 0.

respectively. One death was due to influenza, and one death from cerebro-spinal fever was reported.

Of 12 deaths from pneumonia, one was attributed to lobar pneumonia, 7 to broncho-pneumonia, and 4 to *pneumonia* (not defined).

The total deaths from all forms of tuberculous disease amounted to 30. In each of the 3 weeks preceding, such deaths were 24, 31, and 30. The deaths registered in the week under notice include 12 from tubercular phthisis, 9 returned as from *phthisis*, 2 from tubercular meningitis, one from *tabes mesenterica*, and 6 from other forms of the disease.

There was one death from sarcoma, and 4 deaths from cancer (undefined) were registered.

The death of one infant, prematurely born, was registered.

The deaths (12) from diseases of the brain and nervous system include 6 deaths of children under 5 years of age from *convulsions*, 5 of these children being under one year of age.

Twenty-two deaths were attributed to diseases of the heart and blood vessels, and there were 32 deaths from bronchitis.

Of 4 deaths from accidental causes, 2 were of children under 5 years of age from burns or scalds.

In 3 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include 2 infants under one year of age and a person aged 62 years.

Forty-five of the persons whose deaths were registered during the week were under 5 years of age (26 being infants under one year, of whom 4 were under one month old), and 38 were aged 60 years and upwards, including 19 persons aged 70 and upwards, of whom 4 were octogenarians, and one (a female) was stated to have been aged 90 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer

of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended December 28, 1907, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epi- demic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Total
City of Dublin	Dec. 7	-	*	*	7	-	-	2	5	2	10	13	-	o	*	*	39
	Dec. 14	-	o	*	5	-	-	7	1	5	4	9	-	o	*	*	31
	Dec. 21	-	o	*	4	-	-	10	-	5	4	18	1	o	*	*	42
	Dec. 28	-	*	o	3	-	-	3	-	4	6	14	-	o	*	*	30
Rathmines and Rathgar Urban District	Dec. 7	-	*	o	2	-	-	1	-	-	-	1	-	*	*	*	4
	Dec. 14	-	*	o	1	-	-	-	-	-	1	-	-	*	*	*	2
	Dec. 21	-	*	o	5	-	-	-	-	-	1	-	-	o	*	*	6
	Dec. 28	-	o	o	1	-	-	2	-	-	-	1	-	*	*	*	4
Pembroke Urban District	Dec. 7	-	-	3	-	-	-	1	-	-	-	1	-	*	-	-	5
	Dec. 14	-	1	4	-	-	-	-	1	-	-	-	-	*	-	-	6
	Dec. 21	-	-	4	1	-	-	-	-	-	-	-	-	*	3	-	8
	Dec. 28	-	-	-	1	-	-	-	-	-	-	-	-	*	2	-	3
Blackrock Urban District	Dec. 7	-	*	*	-	-	-	-	-	-	-	-	-	o	-	-	-
	Dec. 14	-	*	*	3	-	-	-	-	-	-	-	-	o	o	-	3
	Dec. 21	-	o	*	-	-	-	-	-	-	-	-	-	o	o	-	-
	Dec. 28	-	o	*	-	-	-	-	-	-	-	-	-	o	o	-	-
Kingstown Urban District	Dec. 7	-	o	*	-	-	-	-	-	-	3	-	-	*	*	*	3
	Dec. 14	-	-	-	-	-	-	-	-	-	-	-	-	o	*	*	1
	Dec. 21	-	o	*	-	-	-	-	-	-	-	1	-	o	*	*	1
	Dec. 28	-	o	*	-	-	-	-	-	-	-	2	-	o	*	o	2
City of Belfast	Dec. 7	-	*	*	4	-	-	5	-	2	5	4	2	-	*	5	27
	Dec. 14	-	o	o	8	-	-	1	-	7	3	12	1	-	*	1	33
	Dec. 21	-	o	*	4	-	-	9	-	8	5	-	-	o	*	5	40
	Dec. 28	-	*	*	6	-	-	3	-	2	5	4	-	o	*	4	24

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended December 28, 1907, 6 cases of measles were admitted into hospital, one was discharged, and 22 cases remained under treatment at its close.

Ten cases of scarlet fever were admitted to hospital, 7 were

discharged, and 49 cases remained under treatment at the close of the week.

This number is exclusive of 8 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

One case of typhus was admitted to hospital during the week, and remained under treatment at its close.

Four cases of diphtheria were admitted to hospital, one was discharged, there was one death, and 28 patients remained under treatment at the close of the week.

Three cases of enteric fever were admitted to hospital during the week, 2 were discharged, and 38 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 6 cases of pneumonia were admitted to hospital, 11 were discharged, there were two deaths, and 28 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, December 28, in 76 large English towns, including London (in which the rate was 14.5), was equal to an average annual death-rate of 14.7 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 18.2 per 1,000, the rate for Glasgow being 19.5 and for Edinburgh 16.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended December 28. From this Report it appears that of a total of 50 cases notified 29 were of scarlet fever, 8 of diphtheria, 4 of erysipelas, and one of enteric fever.

Among the 369 cases of infectious diseases in hospital at the close of the week were 212 cases of scarlet fever, 33 of diphtheria, 29 of measles, 13 of whooping-cough, 11 of erysipelas, and 7 of enteric fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of December, 1907.

Mean Height of Barometer, - - -	29.630 inches.
Maximal Height of Barometer (23rd, at 9 p.m.),	30.246 „
Minimal Height of Barometer (8th, at 3 30 p.m.),	28.782 „
Mean Dry-bulb Temperature, - - -	42.6°.
Mean Wet-bulb Temperature, - - -	40.6°.
Mean Dew-point Temperature, - - -	38.1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.234 inch.
Mean Humidity, - - - -	84.6 per cent.
Highest Temperature in Shade (on 20th),	54.8°.
Lowest Temperature in Shade (on 15th),	31.0°.
Lowest Temperature on Grass (Radiation) (15th),	28.1°.
Mean Amount of Cloud, - - -	60.2 per cent.
Rainfall (on 22 days), - - -	2.149 inches.
Greatest Daily Rainfall (on 19th),	.490 inch.
General Directions of Wind, - - -	S.W., S.E.

Remarks.

A dull, rainy, open month, but severely cold during the last seven days. On Sunday, the 1st, a large anticyclone still covered the British Isles, but the system was retreating steadily eastwards. Very unsettled conditions followed, as a succession of deep atmospheric depressions passed north-eastwards across the Atlantic between the British Isles and Iceland. The weather remained rough and very unsettled, with unusually frequent rainfalls until the 15th, when a brief spell of fine, quiet, cold weather accompanied a ridge of high barometric pressure which drifted eastwards, across Ireland in the first instance and England later on. In the third week (16th to 23rd) a warm southerly air-current passed over Western Europe, temperature exceeding the average throughout the United Kingdom—to the extent of more than 4° generally and more than 6° in the midland counties of England. A marked change occurred on Christmas Eve, with the setting in of a strong S.E. wind tangential to a vast continental anticyclone, within the limits of which intense cold prevailed in Northern and Central Europe. The last week was extremely severe, keen and strong easterly winds blowing over the whole

country, with leaden skies and frequent showers of hail, sleet, and snow. The change was attended by a rainstorm of exceptional duration in the south of Ireland. At the Rectory, Dunmanway, Co. Cork, 4 inches of rain fell in the seventy-two hours ended at 9 a.m. of the 28th.

In Dublin the arithmetical mean temperature (43.0°) was 1.0° above the average (42.0°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 42.6° . In the forty-three years ending with 1907, December was coldest in 1878 (M.T. = 32.8°), and in 1874 (M.T. = 36.8°); warmest in 1898 (M.T. = 47.6°), and in 1900 and 1905 (M.T. = 47.1°).

The mean height of the barometer was 29.630 inches, or 0.245 inch below the corrected average value for December—namely 29.875 inches. The mercury rose to 30.246 inches at 9 p.m. of the 23rd, having fallen to 28.782 inches at 3 30 p.m. of the 8th. The observed range of atmospheric pressure was, therefore, 1.464 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42.6° , or 1.4° below the value for November, 1907. Using the formula *Mean Temp.* = *Min.* + (*Max.* — *Min.* $\times .52$), the value was 43.2° or 1.1 above the average mean temperature for December, calculated in the same way, in the thirty-five years, 1871–1905, inclusive (42.1°). The arithmetical mean of the maximal and minimal readings was 43.0° , compared with a thirty-five years' average of 42.0° . On the 20th the thermometer in the screen rose to 54.8° —wind, S.; on the 15th the temperature fell to 31.0° —wind, W. The minimum on the grass was 28.1° on the 15th. There was only one day of frost in the screen, but 9 nights of frost on the grass were recorded.

The rainfall was 2.149 inches, distributed over 22 days. The average rainfall for December in the thirty-five years, 1871–1905, was 2.25 inches, and the average number of rainy days was 17. The rainfall, therefore, was slightly below, while the rainy days were considerably in excess of, the average. In 1876 the rainfall in December was very large—7.566 inches on 22 days. In 1868 (which was otherwise a fine and dry year), 4.749 inches fell on as many as 27 days. On the other hand, in 1867, only .771 inch was measured on 13 days; in 1885, only .742 inch on 10 days; in 1892, only .795 inch on 10 days; and in 1871, only .797 inch on 15 days. In 1906, 1.806 inches of rain fell on 18 days.

High winds were noted on 14 days, and attained the force of a gale on five occasions—the 4th, 8th, 9th, 13th and 26th. The atmosphere was more or less foggy in Dublin on the 15th, 19th, and 23rd. Hail fell on the 4th, 13th, 26th, 27th, 29th, 30th and 31st; snow or sleet, on the 26th, 27th, 29th, 30th and 31st. A lunar halo was seen on the 22nd, and a lunar corona on the 12th. Thunder and lightning occurred on the 4th.

The rainfall in Dublin during 1907 amounted to 26.994 inches on 218 days, compared with 22.807 inches on 203 days in 1906, 25.277 inches on 193 days in 1905, 22.180 inches on 189 days in 1904, 31.601 inches on 228 days in 1903, 29.375 inches on 203 days in 1902, 26.075 inches on 179 days in 1901, only 16.601 inches on 160 days in 1887, and a thirty-five years' (1871-1905) average of 28.00 inches on 198 days.

Mr. William J. Good reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.633 inches, the range of atmospheric pressure being from 28.844 inches at 9 p.m. of the 8th to 30.248 inches at 9 p.m. of the 23rd. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42.9°. The arithmetical mean of the daily maximal and minimal temperatures was 43.5°. The screened thermometers rose to 56.0° on the 20th, and fell to 27.4° on the 24th. On this latter date the grass minimum was 21.2°. On the 11th the black bulb *in vacuo* rose to 70.1°. Rain fell on 17 days to the amount of 2.031 inches, the greatest fall in 24 hours being .530 inch on the 19th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 23.8 hours, of which 3.7 hours occurred on the 5th. The mean daily sunshine was 0.8 hour. The mean temperature of the soil at 9 a.m. at a depth of one foot was 41.8°; at a depth of 4 feet it was 45.3°.

Mr. R. Cathcart Dobbs, J.P., reports that, at Knockdolian, Greystones, Co. Wicklow, the rainfall in December was 2.565 inches on 20 days, compared with 1.860 inches on 11 days in 1906, 1.405 inches on 10 days in 1905, 1.890 inches on 15 days in 1904, 2.830 inches on 18 days in 1903, and 2.920 inches on only 11 days in 1902. Of the total amount .460 inch fell on the 19th. From January 1st to December 31st, 1907, rain fell at Knockdolian on

187 days, to the total amount of 30.590 inches. The corresponding figures for 1901 were 34.750 inches on 166 days; 1902, 40.021 inches on 168 days; 1903, 35.900 inches on 211 days; 1904, 25.462 inches on 175 days; 1905, 28.920 inches on 160 days; and 1906, 24.488 inches on 151 days.

Dr. Arthur G. Price reports a rainfall of 3.03 inches on 23 days at Clonsilla, Greystones, Co. Wicklow, the heaviest fall in 24 hours being .50 inch. on the 7th. The mean temperature of December was 40.6° , the extremes being—highest, 51° on the 8th; lowest, 32° on the 5th, 6th, 11th, 12th, 13th, 14th, 22nd and 23rd. The rainfall during 1907 at Clonsilla amounted to 30.09 inches on 199 days. The greatest daily measurement was 1.49 inches on May 6.

Miss Muriel E. O'Sullivan returns the rainfall at White Cross, Stillorgan, Co. Dublin, at 3.115 inches on 22 days, .455 inch being measured on the 7th, and .450 inch on both the 8th and the 19th. The total rainfall for the year was 28.575 inches on 219 days, compared with 23.386 inches on 197 days in 1906.

Mr. T. Bateman reports that the rainfall at the Green, Malahide, Co. Dublin, was 2.303 inches on 17 days. The greatest fall in 24 hours was .535 inch on the 19th. The mean shade temperature was 38.6° , the extremes being—highest, 50° on the 7th; lowest, 25° on the 14th. The total rainfall for 1907 was 25.352 inches on 193 days.

The Rev. Arthur Wilson, M.A., reports that rain fell on 27 days at the Rectory, Dunmanway, Co. Cork, to the large amount of 11.80 inches. The heaviest falls were 1.71 inches on the 27th, 1.63 inches on the 26th, 1.33 inches on the 7th, 1.03 inches on the 19th, and .66 inch on the 25th. Rain fell almost incessantly from the morning of Christmas Day till 9 15 a.m. of the 28th. The rainfall for the year was 58.40 inches on 244 days. In 1905 it had been 54.72 inches on 211 days, and in 1906, 50.55 inches on 228 days.

Dr. Christopher Joynt, F.R.C.P.I., recorded 2.192 inches of rain on 24 days at 21 Leeson Park, Dublin. On the 19th, .493 inch was recorded, and on the 7th the measurement was .300 inch. The total rainfall for the year was 27.365 inches on 217 days, compared with 23.112 inches on 198 days in 1906.

Mr. Robert O'B. Furlong, C.B., returns the rainfall at Cloneevin, Killiney, at 2.23 inches on 21 days. The maximal fall in 24 hours was .35 inch on the 19th. The average December rain-

fall of the 22 years (1885-1906) was 2.346 inches on 16.8 days. Since January 1, 1907, 25.94 inches of rain have fallen at this station on 203 days, compared with 22.34 inches on 201 days in 1906.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 23 days to the amount of 2.68 inches, .49 inch being measured on the 19th. Temperature ranged from 54° on the 21st to 31° on the 4th. The mean shade temperature was 42.1° Fahrenheit. In 1903, 2.21 inches of rain fell on 20 days; in 1904, 2.14 inches on 21 days; in 1905, 1.71 inches on 16 days; and in 1906, 1.79 inches on 17 days. The total rainfall in 1907 at Lynton was 28.36 inches on 219 days, compared with 25.61 inches on 205 days in 1906.

At Cork, according to Mr. W. Miller, the December rainfall was 7.02 inches on 26 days, the measurement being 2.57 inches in excess of the average. The greatest daily rainfall was 1.07 inches on the 27th. The year's rainfall at this station was 37.58 inches on 224 days, the total being 0.62 under the average, while the rainy days were 27 in excess.

The rainfall at the Ordnance Survey Office, Phoenix Park, Dublin, was 2.165 inches on 20 days, the maximum in 24 hours being .670 inch on the 19th. The total amount of sunshine was 42.2 hours; the largest daily amount was 5.5 hours on the 5th. The thermometer fell to 25.7° in the screen on the night of the 24th.

RAINFALL IN 1907.

*At 40 Fitzwilliam Square, Dublin.**Rain Gauge :—Diameter of Funnel, 8 in. Height of top—Above ground, 1 ft. 4 in. ; above sea level, 50 ft.*

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
	Inches	Inches	Date	
January, -	.428	.188	1st	9
February, -	1.304	.379	11th	14
March, -	1.934	.742	19th	19
April, -	2.622	.380	2nd	22
May, -	3.211	1.115	6th	17
June, -	2.837	.498	4th	27
July, -	2.022	.460	3rd	19
August, -	2.230	.493	29th	19
September, -	.552	.260	3rd	7
October, -	5.121	.711	8th	29
November, -	2.584	.528	26th	14
December, -	2.149	.490	19th	22
Total -	26.994	1.115 ^a	May 6th	218

^a Maximum.

The rainfall was 26.994 inches, or 1.006 inches less than the average annual measurement of the thirty-five years, 1871–1905, inclusive—viz., 28.000 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16.601 inches—the only approach to this measurement in Dublin being in 1870, when only 20.859 inches fell ; in 1884, when the measurement was 20.467 inches ; and in 1883, with its rainfall of 20.493 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32.966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. In 1900 the rainfall was 34.338 inches, or 6.338 inches in excess of the average for the thirty-five years, 1871–1905. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1900—namely, in 1872, when 35.566 inches fell on 238 days, and in 1880, when 34.512 inches were measured on, however, only 188 days. In 1906 the rainfall was 22.807 inches on 203 days.

In 1907 there were 218 “rain-days” or days upon which not

less than .005 inch of rain (five-thousandths of an inch) was measured. This was 20 over the average number of rain-days, which was 198 in the thirty-five years, 1871-1905, inclusive. In 1868 and 1887—the warm, dry years of recent times—the rain-days were only 160, and in 1870 they were only 145.

In 1905 the rainfall in 24 hours, from 9 a.m. to 9 a.m., on only one occasion exceeded one inch—namely, on August 25th, but it then amounted to 3.436 inches, the greatest daily fall registered in Dublin since these records began. On only one occasion in 1907 did one inch of rain fall on a given day in Dublin—viz., May 6th, 1.115 inches.

In 1901, the rainfall only once exceeded one inch, but on that occasion (November 11th) the measurement was 2.037 inches. In 1902, 1.342 inches fell on July 25th, and 2.075 inches on September 2nd. In 1903 the maximal daily rainfall was .966 inch on September 10th. In 1904, 1.092 inches fell on May 31st, and 1.197 inches on September 12th. The excessive rainfall on August 25th, 1905, is especially noteworthy—it amounted to 3.436 inches in Dublin (Fitzwilliam Square). It was the ninth occasion only since 1865—that is, in 42 years—upon which 2 inches have been measured in Dublin at 9 a.m. as the product of the preceding 24 hours' precipitation. The previous excessive falls were—August 13th, 1874 (2.482 inches); October 27th, 1880 (2.736 inches); May 28th, 1892, 2.056 inches; July 24th, 1896, 2.020 inches; August 5th, 1899 (2.227 inches); August 2nd, 1900 (2.135 inches); November 11th, 1901 (2.037 inches); and September 2nd, 1902 (2.075 inches). On no previous occasion within the past 42 years had 3 inches or upwards been measured.

Included in the 218 rainy days in 1907 are 20 on which snow or sleet fell, and 29 on which there was hail. In January hail was observed on 6 days, in February on 3 days, in March on 2 days, in April on 5 days, in May on 2 days, in June on 3 days, in August on one day, and in December on 7 days. Snow or sleet fell on 7 days in January, 5 days in February, one day in March, 2 days in April, and 5 days in December. Thunderstorms occurred once in May, October, and December, twice in June, and 3 times in July. Thunder was heard without visible lightning once in March and April, and 3 times in July. Lightning was seen once in May, August, September, and December, twice in October, and 3 times in July.

The rainfall in the first six months was 12.336 inches on 108

days. The rainfall exceeded 5 inches in October (5.121 inches), the rain-days being 29.

The rainfall was distributed quarterly as follows :—3.666 inches fell on 42 days in the first quarter, 8.670 inches on 66 days in the second, 4.804 inches on 45 days in the third, 9.854 inches on 65 days in the fourth quarter.

More or less fog prevailed on 50 occasions—4 in January, 7 in February, 7 in March, 4 in April, 1 in May, 1 in July and in August, 8 in September, 6 in October, 8 in November, and 3 in December. High winds were noted on 117 days—13 in January, 9 in February, 14 in March, 9 in April, 10 in May, 17 in June, 2 in July, 15 in August, 2 in September, 9 in October, 3 in November, and 14 in December. The high winds amounted to gales (force 7 or upwards, according to the Beaufort scale) on 30 occasions—3 in January, 6 in February, 7 in March, 1 in April, 2 in May, 3 in June, 1 in August, 2 in October, and 5 in December.

Solar halos were seen on 21 occasions, a lunar halo on 11 nights. Aurora borealis was seen twice in February and in March, once in August.

Mr. Robert O'Brien Furlong, M.A., C.B., writes relative to the rainfall at Cloncevin, Killiney :—The total number of inches measured in 1907 was 25.94 on 203 days, compared with 22.34 inches on 201 days in 1906.

The rainfall of 1907 is 1.81 inches below the average of 22 years (1885–1906)—viz., 27.75 inches.

The number of days on which .01 inch or upwards fell—viz., 203, is 17.8 in excess of the average for the same period—viz., 185.2 days.

The number of rainy days has been exceeded in only 3 years—viz., 1897, 204 days ; 1900, 205 days ; and 1903, 219 days.

The greatest amount measured in any month during 1907 was 4.98 inches on 28 days in October ; the smallest, .52 inch, on 7 days in September.

The heaviest fall in 24 hours was on May 6th, when 1.17 inches fell.

Snow, sleet, or hail, was observed on 15 days.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam Square, West) during the Year 1907.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min.	Rainfall	Rain Days	Mean Height of Barometer	Highest Pressure	Date	Lowest Pressure	Date	Prevailing Winds
January	° 54.1	1st	° 27.5	25th	° 47.2	° 38.1	"	9	"	"	23rd	"	1st	W., S.W.
February	55.7	15th	28.4	5th	45.5	35.1	1.304	14	30.002	30.572	5th	28.907	12th	W., N.W.
March	64.1	27th	31.8	31st	53.4	39.6	1.934	19	30.107	30.482	23rd	28.794	16th	S.W., W., N.W.
April	67.0	23rd	33.2	15th	53.8	40.5	2.622	22	29.767	30.357	25th	29.113	3rd	N.W., W.
May	67.5	27th	34.4	1st	58.0	44.7	3.211	17	29.813	30.334	17th	29.130	2nd	N.E., E.
June	65.2	14th	43.0	25th	61.7	49.0	2.837	27	29.761	30.232	16th	29.399	10th	W., S.W., N.W.
July	77.3	17th	43.8	11th	65.6	53.5	2.022	19	30.014	30.567	11th	29.450	3rd	W., N.W., S.W.
August	73.1	13th	44.1	30th	64.9	52.7	2.230	19	29.927	30.383	21st	29.517	4th	W., S.W., N.W.
September	71.2	10th	38.7	4th	63.4	52.2	.552	7	30.091	30.472	18th	29.486	2nd	N.E., W.
October	65.1	5th	32.8	24th	54.5	45.3	5.121	29	29.561	30.092	4th	28.768	18th	E., S.E., W.
November	56.1	4th	29.8	25th	49.4	39.7	2.584	14	29.938	30.487	30th	28.917	26th	W.
December	54.8	20th	31.0	15th	46.9	39.1	2.149	22	29.630	30.246	23rd	28.782	8th	S.W., S.E.
Extremes, Totals, and Means	° 77.3	July 17th	° 27.5	Jan. 25th	° 55.4	° 44.1	"	Days 218	"	"	January 23rd	"	October 18th	W., S.W., N.W.
49.8°														

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F. R. Met. Soc.

January 4, 1908.

PERISCOPE.

A SIDE-LIGHT ON RUSSIA IN THE SEVENTEENTH CENTURY.

IN the present generation, when our planet has become permanently girdled with railroads and steamers, and telegraphs and motor cars, it is somewhat difficult to realise the remoteness of the other continents when the world was believed to be flat, and the firmament revolved around it. Galileo was silenced by the Inquisition in 1632; and in the following year the first considerable bond of civilising communication was established between [Germany] *Holstein*, *Muscovy* [Russia], and Persia. In 1669 was printed in London "The *Voyage and Travells* of the AMBASSADORS sent by FREDERICK DUKE of *HOLSTEIN*, to the Great Duke of *Muscovy*, and the King of Persia. Begun in the year M.DC. XXXIII. and finish'd in M.DC. XXXIX. . . . Written originally by ADAM OLEARIUS, Secretary to the *Embassy*. *Faithfully rendered into English*, by JOHN DAVIES, of Kidwelly. The Second Edition Corrected." This very considerable folio contains many interesting items of information regarding not only the public life and geographical features of Russia, but of its primitive domestic hygiene, its specially national items of cooking and brewing, and its significantly elementary therapeutics. As the country in question now is, and will probably long remain, one of the most prominent to the philosophic as well as political eye, these extracts are of interest: "They are not acquainted with our delicate meats and sawces. Their ordinary food is coarse Meal, Turneps, Coleworth, and Coweumbers, both fresh and pickled. Their great delicacy is Salt-fish, which, being not well salted, infects the places near it, so that you may smell their Fish-market at a great distance. They cannot want Beef and Mutton, there being good pastures all over *Muscovy*, and the Forests breed such abundance of swine, that they must needs be very cheap: but to avoid expence, as also for that their year hath more fasting dayes than flesh dayes, they are so accustom'd to Fish and Pulse, that they care not for flesh. Add to this, that their continual fasts have taught them so many wayes to dress their Fish, Herbs, and Pulse, that a man may wel forbear those dishes of meat which are much esteemed elsewhere, We said, how that the Great Duke willing to entertain us from his own Table, sent us above forty dishes, most of Pulse and Herbs. Among other things they make a sort of Pies, which they call *Piroguen*, about the bigness and fashion of a twopenny

Loaf. They fill the crust with Fish or minc'd meat, with Chibals and a little Pepper, and fry them in a Pan with Butter, and in Lent with Oil. 'Tis no ill dish, and may be called the *Bisque* of those Parts. "The spawn of Fish, especially that of *Sturgeon*, they order thus. They take off the skin, very neatly, and then salt them. Having been in salt some eight or ten dayes, and by that means reduc'd as it were to a paste, they cut it into small slices, putting Onions and Pepper to them, and they are eaten with Oil and Vinegar like a Salad. It eats much better if instead of Vinegar, you put the juice of Citron. Yet to love this kind of Sallade, a man must be accustomed to it, though they think it excites appetite and fortifies Nature. The *Muscovites* call it *Ikary*, and the *Italians* *Caviar*. There is much of it eaten in *Italy* in the Lent time, instead of Butter. The best is made upon the *Wolgda*, and near *Astrachan*, whence it is transported in Tunns of 7 or 800 weight, by the way of *England* and *Holland* into *Italy*. The great Duke reserves the Trade of this Commodity to himself, farms it out, and makes a very great yearly advantage of it. To dispel the vapours rising up to the head, after excessive drinking, they take cold roasted Veal, mince it, not too small, with some pickled Cowcumbers, adding thereto a sawce of Pepper, Vinegar, and the juice of pickled Cowcumbers, and eat it with spoons. It recovers appetite, and tastes well enough. Their ordinary drink is a sort of small Beer which they call *Quas*, or Hydromel; but they never eat, without a dram of the Strong-water bottle before and after their meal. Persons of quality are furnish'd with strong Beer, Sack, and all other sorts of Wine. Their strong Beer is brew'd in *March*, and kept all Summer in their Snow-houses, where they make a bed of Ice and Snow mixt together, and then a layer of Barrels: upon them again a bed of Ice, and then another row of Barrels, covering them with straw and planks, which are instead of a vault to them; for their Cellars are not covered. The *Muscovites* care not much for *Rhenish* nor *French* Wines, thinking them not strong enough; but they love Hydromel, which they order with Cherries, Strawberries, Mulberries, or Rasp-berries. That they make with Rasp-berries is the most pleasant of any. To make it well, they put the Rasp-berries a-soaking in fair water for two or three nights, till the water hath got their taste and colour. Into this water they put some of the purest Honey, allowing to every pound of Honey three or four of water, as they would have the Hydromel strong or small. They put into it a Toast dipp'd in

the dreggs of Beer, which is taken out as soon as the Hydromel begins to work, lest, continu'd longer, it should give it an ill tast. If they desire it shall be long a-working, they put it into some warm place; but if it be for present drinking, they put it in a cool place, where it soon gives over working, and then is taken off the Lees to be spent. To better the taste of it, they put in a little bag of Cinnamon, and grains of Paradise, with some few Cloves. Some, instead of fair water, steep the Rasp-berries 24 hours in common Aquavitæ, which gives the Hydromel an excellent tast. Common Hydromel is made of the Honey-combs, which they beat in warm water, stirring it much, and after it hath rested seven or eight hours they cleanse it through a Sieve, boyl it, scum it, and without any more ado expose it to sale." After such revelations regarding the national food and the national drink—as well as the national fasts—of the seventeenth century ancestors of our Russian neighbours of that now very troubled empire, the reader may be prepared for, or perhaps will be surprised by, the succeeding information that: "The *Muscovites* are of a healthy and strong constitution, long liv'd, and seldom sick; which when they are, their ordinary remedies, even in burning Feavers, is only Garlick and Strong-waters. Persons of quality make use of Physicians, though but within these few years, and are persuaded that remedies may do them good."

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Tabloid" Quinine Compound.

MESSRS. BURROUGHS, WELLCOME & Co., of London, have recently placed on the market a product which is especially valuable at this season, when changeable weather frequently involves exposure to risks of colds and catarrhal and bronchial affections. It is called the "tabloid" quinine compound, and the following is the formula:—

Cinchona alkaloids, gr. 1 (0.065 gm.)

Antifebrin (acetanilide), gr. $1\frac{1}{2}$ (0.078 gm.)

Camphor monobromate, gr. $\frac{1}{5}$ (0.013 gm.)

Powdered ipecacuanha, gr. $\frac{1}{8}$ (0.008 gm.)

Cascara sagrada extract, gr. $\frac{1}{4}$ (0.016 gm.)

The antiseptic, antipyretic, expectorant and laxative principles combine to assist the patient to combat the infection and cut short the febrile process. One may be taken every hour in the early stages of catarrh. This tabloid is issued in bottles of 25 and 100.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

MARCH 2, 1908.

PART I. ORIGINAL COMMUNICATIONS.

ART. VII.—*The Prognosis and Treatment of Nephritis.*^a By
J. MAGEE FINNY, M.D. ; Physician to Sir Patrick Dun's
Hospital ; King's Professor of Practice of Medicine, School
of Physic in Ireland ; President of the Royal Academy of
Medicine in Ireland.

THE range of the subject which I have the honour to introduce for your observations and discussion is so wide, and so many points of scientific and practical interest are involved, that were I to attempt to do even moderate justice to it, or them, the task would be far too great for me and this communication much too long and tedious for you, as well as being outside the purport of this meeting.

I am not authorised to deliver a lecture on the subject of nephritis, nor expected to keep your interest alive by any novelties, but to place before you some matters bearing upon the prognosis of the diseases included in the term "nephritis" and upon their treatment, and to ask you to assist by bringing to bear upon these topics your own experience as to the difficulties and responsibilities you have encountered in their

^a Read before the Section of Medicine in the Royal Academy of Medicine, Ireland, on Friday, January 31, 1908. [For the discussion on this paper, see page 223.]

management, and to record the favourable or unfavourable results of the treatment you have employed.

In no other disease, with perhaps the exception of the continued fevers, are prognosis and treatment so closely linked and so dependent the one on the other.

The questions of ætiology and diagnosis one cannot properly discuss, though they cannot be divorced from consideration on some special points cognate to prognosis, while the most interesting subject of the pathology will be dealt with fully and, I doubt not, most exhaustively by Dr. Earl.

I shall therefore confine my remarks to those inflammations of the kidney which are covered by the general terminology of nephritis.

(a) Acute nephritis due to toxic influences or to exposure to chills.

(b) Subacute or chronic parenchymatous nephritis.

(c) Chronic interstitial nephritis.

I do not propose to enter on the interesting, though debatable, side issues as to the relative sequence these diseased conditions bear to each other, beyond stating my belief that a diffuse nephritis—more or less extensive—is present in each class of inflammation and each variety of disease.

I exclude the lesions produced by traumatism, embolism, gout, septic infection, tubercular disease, pyelitis, or the secondary, so-called surgical, kidney—that dependent on disease of the bladder—and leave out altogether the waxy or albuminoid kidney, as it is in no sense an inflammatory condition.

In nephritis, no matter what variety we may have specially in mind, we are face to face with the fact that the eliminating functions of the kidneys—for both organs are engaged—is more or less deranged, and that the metabolism of the whole body is temporarily or permanently dislocated in direct proportion as the renal function is temporarily or permanently inefficient.

Thus, in general terms, we find some common factors in every case we meet, which supply us with a sufficiently wide basis upon which we can be justified in founding an opinion and in formulating a line of treatment.

These factors are mainly three—(1) the appearance of

albumen in the urine with or without blood ; (2) the alteration in the amount of liquid excreted—causing, on the one hand, oliguria with general anasarca or local œdema, and, on the other, profuse diuresis or polyuria ; and (3) the retention of nitrogenous compounds producing the group of grave symptoms—“ uræmic syndrome.”

Every one of these factors may be present to a greater or less degree at some stage in inflammation of the kidneys, or they all may be present as early phenomena in acute nephritis, or in the course or progress of the most chronic variety they may arise into a prominent position, endangering the patient's life.

In discussing shortly these principal features of kidney disease I would urge the advisability, if not the absolute necessity, of weighing carefully and calmly the relative importance to be attributed to any one of them, and of not falling into the error of basing an adverse opinion as to prognosis or treatment on the existence of any one such feature taken by itself, serious though that symptom may be, when it is present along with others of like gravity.

The need for this caution will be readily seen in the common case of “ albumen in the urine.” This symptom—so often spoken of as if it were a real entity or disease—obtrudes itself at every turn in one's daily practice. It is one with which the public are very familiar, and of which the Life Insurance Offices take stock. Its presence affects the judgment of the surgeon undertaking an operation and the obstetrician in a case of pregnancy. Its discovery may be the high watermark of a practitioner's medical chemistry, and too often is elevated into a sort of barometer of a patient's progress when afflicted with Bright's disease.

Should a patient be aware that he has albumen in his urine, and still worse, if he should have been instructed to make his own observations and apply the clinical tests for its presence, his mood and his happiness become too often dependent on the result of his weekly or daily examination of the urine. When the reaction points to a small amount he may be lulled to a state of false security, and his mood be one of comparative happiness, and yet we know his state may at that moment

be one of imminent danger. Should it, on the other hand, show an increase, he is made miserable, and is in a state of anxious despair, and "life" for him "is not worth living." We all recognise such cases in our practice. I cannot, however, refrain calling to mind the case of a married gentleman, a retired officer, whose life was an incessant balance between a state of moderate and greater amount of albumen, and whenever he went on a short trip from town he always carried with him his spirit lamp and test tubes, and made his weekly examination of the urine.

While on a yachting holiday in the west of Ireland he discovered one Sunday that his urine showed a decided increase in the quantity of albumen. This discovery instantly put him into a fever of excitement and anxious prognostications as to what might happen to him (vulgarly known as a "blue funk"). He at once made for the shore in a dinghy, telling his friends he had important family and private matters to attend to, and travelled up to town in a slow train, and reached home, half dead with fright, in the middle of the night, to the alarm of his wife and the disturbance of his household. After a few hours of prolonged anxiety his physician, whose aid he sought soon after daylight, assured him he was much as usual, and that there was no special cause for fear!

The occurrence of albuminuria in young adults, of a functional nature—the so-called "postural" or "orthrotic" albuminuria—is perhaps one of the most interesting examples of the need of caution in dealing with this symptom.

An error may cause untold worry and rob the sufferer of position and advancement in life. Within the last half dozen years a young gentleman, eighteen years of age, a great athlete at school, and who had never been ill with worse complaints than ring-worm and German measles, passed with credit the examination admitting him to a post of junior clerk in one of our largest banks. He was rejected by the medical officer and disqualified, because of albumen being discovered in his urine. His mother, a woman of very limited means and a large family, a widow of one of our medical brethren, brought him to me in great distress. I found there

was albumen in quantity in the urine, at the same time the specific gravity was 1022, and there were neither granular nor epithelial casts. Subsequent examinations revealed the fact that the urine passed on waking was quite free of albumen, while that in the day and afternoon, when the lad was about and taking exercise, was decidedly albuminous.

I wrote a strong report in favour of the lad being accepted. After some time, fortunately for the patient, the medical referee of the bank, who was an intelligent and competent officer, took him under his own care for a fortnight, and recognising the albumen to be due to the functional derangement of adolescence withdrew the ban, and the patient is now, I am glad to say, discharging his duties efficiently and in the best of health and vigour, four years subsequent to his primary rejection.

Here may I point out two very serious, though self-evident, errors one may fall into when quantitatively estimating the albumen in the urine: One is to base an opinion on a single sample of urine, taken haphazard, instead of working on a sample of the water passed in twenty-four hours. For example—the urine of a case of small contracted kidney, or chronic interstitial nephritis, may show, perhaps, 0.1 per cent. of albumen at one time and again 0.02 per cent. at another, and yet the latter state may be one of a much more serious and graver significance. The second error is to take the amount of albumen passed by one case as a standard for comparison with that of another case.

One hears not infrequently in hospital practice the student saying, and evidently impressed by the fact, that patient X. is passing a large quantity of albumen; “the urine is solid with albumen”; and that patient Z. has only a trace of albumen; when in truth case Z. may be in imminent danger from advanced renal disease, while case X. may be free from organic renal disease of any sort, and the albumen be simply due to a failing heart of mitral disease.

The quantitative analysis of albumen and its systematic record in the same case is, however, of the highest value as to the upward progress, or the reverse, when proper precautions

are adopted, as well as being indicative of the good or bad result of any particular dietetic or medicinal treatment.

Von Noorden, of Frankfurt, from whose writings I have freely quoted, says on this subject: "Albumen is a conclusive index in only acute nephritis, as its reduction points to improvement, its increase to exacerbation. It is not so reliable in chronic parenchymatous nephritis as in that variety. Albumen is liable to fluctuations, and an attempt to base a prognosis or to estimate the effect of treatment by such a criterion is fallacious." "A periodic rise and fall of albumen," he adds, "is a common symptom in these cases." Again, in the chronic contracted kidney, the same observer states "that any sudden change in diet usually leads to an increase of albumen—regardless whether we pass from milk to meat, or *vice versa*, or from meat to vegetarian, as after a few days, or a week, the old level is reached." While, therefore, it is wiser not to attach too much importance to considerable fluctuations in the amount of albumen excreted in these diseases, on the other hand their significance must never be underrated, but looked upon as a most valuable guide when they point in the same direction as do other changes in the general condition of the patient.

The question of the treatment of albuminuria in nephritis, while it involves and includes that of the special renal lesion of which it may be the prominent symptom, is one of considerable clinical difficulty, and I am free to admit at once, as the result of my own experience, that there is no special medicine which will control it and check it. The same remark is true of the bleeding which is so often associated with it. The usual hæmostatics—turpentine, acetate of lead, ergot, gallic or tannic acid, calcium chloride, solution of adrenalin, and the astringent salts of iron, such as perchloride, or pernitrate—have failed to do good, while the incautious use of iron and of turpentine is more likely to do harm than good.

It is therefore, comparatively speaking, possible to neglect the failure of drugs to command the loss of albumen in making up one's mind as to prognosis; and, indeed, it is right to notice that the loss of albumen in kidney disease is practically a

matter of small moment, so far as the health and life of the patient is concerned, and as to the possibility of serious complications arising in the course of the case, for it has been estimated that the amount of albumen which may be lost in a day can be fully compensated by the administration of one or two pints of milk. On the other hand, any severe and prolonged hæmaturia is bound to be followed by anæmia and the malnutrition of the body.

How then is one to treat a case of acute hæmorrhagic nephritis with the best prospects of reducing the loss of the blood corpuscles and of the albumen?

The first indication is to ensure rest in the horizontal position with the avoidance of all muscular exertion; for it is a well-known fact that, even in the convalescent stage of nephritis, the return of hæmaturia and an increase in the albumen not uncommonly follows upon the patient leaving his bed for the first time. In most cases local depletion is necessary, and one depends upon leeching, wet or dry cupping over the loins, the application of mustard or capsicum epithems, and constant poulticing and stuping. But in not a few cases of acute nephritis more active treatment is required, and general depletion is necessary when the function of the kidneys is totally or greatly arrested and the evidences of uræmia are pressing. In these circumstances prompt action is required, and venesection to 15 or 20 ozs. should be practised. It is not applicable, as a rule, in the nephritis coming on in the advanced stages of scarlatina or other fevers, but in the case of a previously strong youth or adult, from exposure to cold, there is no remedy so prompt in its action or so beneficial in its results.

This was forcibly brought home to me many years ago, and made such an impression on my mind that I venture to report the case briefly:—

A vandrider, aged thirty, was exposed for some hours to the keen east wind of March blowing on his ill-protected back as he returned to town from his rounds in the country. On reaching his home, thoroughly chilled and wet to the skin, he took a stiff glass of whisky punch, and went to bed. He did not sleep, but spent the night restless, and constantly

getting up to pass urine. The latter was very concentrated and small in quantity, not more than an ounce passing at each time, and was deeply coloured and bloody. He sank into a stupor or comatose condition. I was called to see him fifteen hours after the onset of his illness, and learned that no urine had been passed for four hours, and there was none in the bladder. I found him practically comatose, unable to give an account of himself, to answer questions, or even to swallow. His respiration was loud, hissing and noisy, his face congested; pulse regular, about 80, strong, and of high tension. As no medicine could by any means be passed into his throat, I decided to bleed him without delay, and I bled him to 15 ounces. Before the blood had ceased to flow there was a return of consciousness, and I managed to get him to swallow a bolus of calomel and compound powder of jalap with two minims of croton oil. After it had acted he recovered sufficiently to be removed to one of our city hospitals, where he remained for some months under treatment before recovery.

The event I have shortly recorded occurred some forty years ago, when I was a very junior physician, but the impression it made on my mind is as vivid to-day as if it were but a year ago, and similarly vivid are the pictures of the patient lying unconscious in his squalid bed in a court off Camden Street; his terrified wife standing by, a neighbourly old crone, who acted as my assistant in bleeding him (though she had evidently seen many more phlebotomies than I had), and then the contrast between the man's condition before and after the bleeding—these can never be effaced from my memory.

When general blood-letting may not be practicable, Baccelli recommends bleeding from the dorsal veins of the foot, as the absence of valves in the vena cava and renal veins enables rapid depletion to be effected.

The second indication for treatment is to "save the kidneys" as much work as possible, by reducing to a minimum the amount of foods—solids and liquids—and by endeavouring to eliminate the urinary products through the bowels and the skin.

The administration of concentrated doses of the sulphate of magnesium, or compound jalap powder, every morning on an empty stomach, will meet the first; while hot air or vapour baths, or the hot pack or hot water baths will meet the second. To aid the diaphoresis the hypodermic use of pilocarpin, gr. $\frac{1}{10}$ – $\frac{1}{8}$, may be employed, and the best time to give it is when the patient is in the hot pack, as it then promptly induces sweating, which can be encouraged by letting the patient lie between hot blankets, covered with waterproof rugs.

The diet should be arranged so as to be as free as possible of nitrogenous foods, and meats, eggs, beef tea and meat extracts should be rigidly excluded. The almost universally accepted diet is milk, either alone or combined with some amylaceous material as arrowroot, sago, corn-flour, barley water. Benger's food, or infant foods, such as Mellins', Chapman's, Allenbury's, &c. It matters little which, though in every instance cream and sugar should be added.

In very acute cases no harm, but good, will accrue from a starvation diet for a short time, as von Noorden inculcates. Nay, further, it is a mistake to order milk *ad libitum*: for milk contains too much albuminous compounds, as well as too much water; it is therefore a doubtful practice, as well as unscientific, to endeavour, on the one hand, to save the kidneys, whose function of the secretion of water by the glomeruli is in abeyance; and, on the other, to order four or five pints of milk in the twenty-four hours to add to the already overfull circulation.

Dr. Carl von Noorden on this point gives a sample of a daily menu containing the smallest quantity of protein, and yet possessing the greatest possible nutritive value, as follows:—Milk, 150 gms.; cream, 375 g.; rice, 50 g.; zwieback, 50 g.; butter, 50 g.; sugar, 20 g. This quantity is not difficult to master, and is very digestible; it contains 2,900 calories.

Such a diet is suitable for acute nephritis. In the convalescent stage the milk is to be increased to $2\frac{1}{2}$ litres, and white bread, cereals, oaten and barley, small quantities of cream

cheese, grapes, a little egg or meat, and at this stage the administration of large quantities of fluid, including drinks containing the juices of various fruits.

The question of "flushing the kidneys" by copious draughts of water in acute cases with oliguria, is one on which there are different opinions held. My own practice and experience are strongly adverse to such a course. I am convinced that free libations of liquids, be it milk or water, or mineral waters, will fail just as diuretic medicines will fail, and may do more harm than good.

I am sure most of my hearers will have had the same experience as I have had, and have noted the truly remarkable fact that in cases of acute hæmorrhagic nephritis, or acute parenchymatous nephritis, without hæmaturia, by simply acting on the bowels and skin, to the exclusion of all diuretics, the function of the kidneys will of itself be so far regained as that a free and full flow of urine will be established.

It is at that time, and then only, that "flushing the kidneys" becomes justifiable and can be employed, and employed with confidence, by plain water, or water and lemon, or as lemonade, with a teaspoonful of cream of tartar added to each quart. A milk diet, modified as I have suggested, should be enforced and maintained during the course of acute nephritis. The same dietary should be ordered in the cases of an attack of acute nephritis supervening on a chronic nephritis, and continued so long as the acute symptoms are present.

Such a diet is quite possible, and is gratefully accepted by a patient under these circumstances; but the difficulty is greatly enhanced when one has to treat chronic parenchymatous nephritis, and it is in these cases that all the acumen and tact of the physician are needed to direct a diet which will "save the kidneys" and yet not allow wasting of tissues or weakness of the heart, and which will, at the same time, be such that a patient can take with some relish from month to month and year to year.

The second line of thought, which I propose for our discussion is the occurrence of dropsy. It is a symptom, like albumen, common in a greater or lesser degree, to every

variety of nephritis, and, as a rule, in the inverse ratio to the amount of urine secreted. It must not be supposed, however, that simple hydræmia, with a loss of albumen, adequately explains the phenomena of dropsy, as Senator points out; since in advanced cancerous cachexia there is very little dropsy, and in scarlatinal dropsy it occurs before the loss of albumen.

Dropsy is always a grave symptom, and its appearance complicates prognosis.

Recognising the truth of the Bowman-Heidenhain theory, that the water of the urine is a secretion in the glomeruli, and not a simple filtration, as Ludwig believes it to be, it is easy to see that an inflammation of the glomeruli is sure to be attended with diminution in the quantity of urine passed, even to complete suppression.

Such a condition is usually present in the nephritis which is the result of toxæmia, the commonest poison being that of scarlet fever. In this—the so-called glomerulonephritis of Klebs—there is also a rupture of the capillary loops forming the glomerulus, and thus the urine usually contains blood, to such an extent sometimes as to be passed as blood, while *pari passu* with the oliguria, dropsy may be present as general anasarca, or local œdema.

The second most common dropsy is in acute parenchymatous nephritis—the result of chill and exposure to cold—and the third is in pregnancy.

This acute dropsy—called inflammatory dropsy—is often the first and most striking feature of the failing kidney in scarlatina, and many cases of the kind attend our hospitals and dispensaries, its causation having been totally overlooked.

The dangers lie more in the locality of the effusion than its amount—*e.g.*, the lungs and the glottis; but of all places, that in the cerebral meninges is the worst, as there can be little doubt that in addition to the toxic effects of retained nitrogenous compounds and other ingredients—the so-called chemical theory—an urgent factor of the uræmic state in acute nephritis is the œdema of the brain.

A strong side-light in favour of this (the physical theory) is furnished by the results which have followed paracentesis

of the spinal fluid by lumbar puncture—a novel but recognised method of relieving intracranial pressure. Dr. M'Vail records two cases in which the canula was allowed to remain three-quarters of an hour, and an ounce of fluid drained away. One patient regained consciousness in four hours, and rapidly recovered; the other lost all albumen in the water.

The prognosis, then, in a case of acute or chronic dropsy must largely depend on other things besides the dropsy itself, and is closely related and subservient to the effect of treatment.

Fortunately, in acute inflammatory dropsy the same line of treatment is to be strenuously carried out as that useful in the hæmaturia and albuminuria of acute nephritis, and attention is to be paid to the same points and stress laid on the same precautions. The reduction of the dropsy is to be accomplished by affording physiological rest to the inflamed kidneys, by calling the skin into activity, and producing free watery motions, and, should it still persist, by drainage of the swollen limbs and tapping the serous cavities.

It is most important to watch for, and note the effect of, this derivative treatment as a valuable prognostic sign. One can thereby estimate whether the anasarca is due to a temporary failure of the secreting epithelium of the kidney or to a permanent degeneration of it.

Without entering further into details, already sufficiently given in the preceding remarks on acute nephritis, I may say the chief duty of a physician is to carry out the best means at his disposal to relieve the dropsy, and in doing so to consider the patient's strength and individual condition. He should adapt his dietetic and hygienic instructions to the various phases of the disease, without carrying the routine treatment to any extreme.

On this point of anasarca, of late years much has been written, both as to its production in nephritis and as to its treatment, which is somewhat novel, and deserves a favourable consideration. I refer to the views that in acute nephritis not only is the function of the kidney in abeyance as to the excretion of nitrogenous materials, and to the secretion of the normal quantity of water—facts universally admitted—but

that it is markedly deficient in excreting certain other urinary ingredients, and in particular the chlorides.

These views are principally advanced by such German clinical physicians as Strauss, von Noorden, and Senator, and adopted by many French and American writers chiefly in relation to the preventive and curative treatment of renal dropsy; and although the opinions expressed and the practice based on them are not universally accepted, there is no doubt that the views held are based on seemingly sound principles and wide clinical experience. From my own personal practice I cannot say I have had sufficient experience to warrant giving an opinion.

Professor H. Strauss, M.D. Univ. Berlin, claims to be the first (four years ago) to draw attention to "chloride deprivation"; and just as we know that uræmic manifestations, both acute and chronic, are connected with derangement of the mechanism which controls the elimination of nitrogenous bodies, so he claims "the pathogenesis of anasarca is more or less intimately bound up with the retention in the body of chlorides, and the rate of excretion of chlorides is used by many observers as a measure of the functional activity of the kidneys." Not every case of anasarca of renal origin is necessarily an object for the systematic deprivation of chlorides; but as Widal and Javal, the French observers in support of Strauss's views, lay stress, it is in the cases only of dropsy in acute and chronic parenchymatous nephritis that it is applicable. According to Mohr, in uræmia chlorides are still further retained; on the other hand, in the chronic interstitial nephritis, the secretion of chlorides is increased, and Dr. Tessier and Dr. Courmont look upon the rate of excretion of chlorides in it as explaining polyuria, thirst, and absence of œdema in that form of kidney disease.

F. Widal and E. Javal further claim that by regulating the amount of chlorides they are able to obtain hydration or dehydration of the system in accordance with a high or a low amount of chloride in the food. Salts, they state, are most dangerous foodstuffs in many cases of parenchymatous nephritis, and a chloride reduction is a most important point

in therapy; and so long as the food be free from salt, or does not contain more than a teaspoonful in the day's consumption, bread, meat, sugar, potatoes and butter may be used without fear.

Senator, writing in 1905, states "that the withholding of chlorides is followed by a decrease of dropsy"—and other writers, "that polychloruria indicates a phase of œdema resorption; and as œdema plays an important part in so-called uræmic disturbance, it is essential to withdraw chlorides as far as possible from all food and medicine."

The lack of chlorides explains the general usefulness of milk in acute nephritis: but as milk in sufficient quantity to maintain life would contain not only an excess of water (as already stated above) and too much proteid, but also of chlorides, it is easy to arrange a diet with less salt than milk contains—such as bread, butter, vegetables cooked without salt, along with about one and a half to two pints of milk and cream. This diet is well tolerated and active in combating œdema and uræmic symptoms.

I shall not follow this branch of the subject further. Enough has been said to point to the valuable hints as to treatment in some of the graver aspects of acute and subacute nephritis, and I shall only refer to one or two other novelties in treatment.

The use of glycerine extracts of kidneys has been tested on the analogy of the benefit derived from thyroid extract in cases of myxœdema, and recommended by Drs. Tessier and Renaud as beneficial in uræmia, and even in cases of scarlatinal nephritis. But so far as I have been able to discover, this favourable result has not been confirmed at the hands of other physicians.

Again, surgery has come forward to give what help it can, and simple splitting of the capsule, or complete decapsulation of the kidneys has been tried; but the results hardly justify these operations whether in acute uræmia in young patients or in the more chronic parenchymatous or interstitial contracted organs. Some of the cases in which relief and cure have been claimed were at the same time treated by the recognised medical treatment to which I have referred, while

in others the operation had to be repeated at short intervals, because a new and equally unstretchable fibrous investment had rapidly formed after the operation. Last year the operation seems to have fallen into the oblivion it merits.

I shall conclude these remarks—already far too long—by touching on two or three prominent symptoms which obtrude themselves in cases of chronic interstitial nephritis. This variety differs in many points from those already discussed, whether we view it from an ætiological, pathological, or clinical point of view. In it, as we know, albuminuria and dropsy are noted, comparatively speaking, for their absence, while cardiac and circulatory changes are evident. The simple hypertrophy of the left ventricle of the heart—some times to an enormous size—without valvular lesions, the intensification of the aortic second sound, and the high arterial tension are well known clinical features; while the tendency to the complications of inflammation of the serous membranes—peritoneum, pleura, lung, pericardium and endocardium—is fully recognised. With the structural changes in the walls of the arterioles the risk of rupture of the retinal vessels, causing partial blindness, and those of the brain, producing apoplexy, are ever present to the physician's mind. Too often does it happen that the diagnosis of cirrhotic disease of the kidneys is arrived at for the first time by the occurrence of this latter complication, when the patient's life is beyond recovery, while many a patient first learns the gravity of his state by the warning of the ophthalmic surgeon. "This is not a case for me; glasses will do you no good. You had better consult your physician."

Can medical treatment do anything to ward off a fatal result in cases of this disease? Unhesitatingly we can answer in the affirmative.

Medicine and medical treatment can do much to prolong life, and cure or mitigate serious complications, by protecting the kidney from over-taxation on its diminished and ever-gradually diminishing glandular epithelium, by invigorating the whole system of the patient, and by sparing the heart on the one hand and strengthening it on the other.

In many respects the same line of diet is advisable as in the chronic parenchymatous disease. but exception is to be made to the strictness (1) in limiting the amount of liquids ingested, (2) the deprivation of chlorides, and (3) as to the amount of animal food permitted.

On this last point von Noorden writes:—"I have found no reasonable objection to the administration of meats—dark or white make little difference—to these patients. I have found it much easier to feed them in a rational way, and to raise their general strength by allowing a diet, including proteids, to the amount of about 6 to 7 ozs. of raw meat in the day for a man of 11 stones."

The guide in treatment is really with regard to the state of the muscle of the heart. Should dilatation of the ventricle occur, it is at once an indication of cardiac weakness, no matter whether the organ be already hypertrophied or not, and if this is taking place there will be the storm signals of dyspnoea, asthma, and insomnia. Under such circumstances the amount of water allowed should be reduced, so as not to over-fill the already crowded blood-vessels, while the liquid nourishment should be reduced by half, although the effect will be to temporarily increase the albumen in the urine—but the heart will become stronger.

Next to the heart, or rather along with it, we have in the state of the arteries another valuable guide. Where increased arterial tension is evident, the daily use of nitroglycerine, trinitrin, or the nitrite of sodium is of the greatest benefit, and a remarkable change for the better in the pulse takes place, and with it in the general health of the patient.

I have found $\frac{1}{100}$ gr. of nitroglycerine administered three times a day, or gr. $\frac{1}{2}$ to gr. 1 of sodium nitrite, to act as a charm. Those medicines must, however, be frequently repeated, as their effect on tension is evanescent, but if persevered in for, say, one or two months at a time, I found it possible afterwards to reduce the dose or do without it altogether.

Another medicine of similar and even greater benefit has been iodide of potassium, persevered in for weeks and months. Not only does it lower tension but, by its action on the

arterial nutrition, it reduces the risks of hæmorrhage in the brain or the retina, and causes the retinal mischief of former ruptures to be limited and the extravasations to be absorbed.

Among the distressing symptoms which one is called upon to treat in atrophic nephritis is insomnia. This may be an evidence of approaching uræmia, and may shortly, and perhaps abruptly, terminate in coma or convulsions.

The best treatment lies in restricting the diet for a few days, though not limiting water, and administering chloral hydrate in full doses. Should it fail to cause sleep, hyoscin hydrobromid may be used with benefit, and after that morphin hypodermically.

The use of morphin in renal disease must ever be approached with caution, and should be entirely forbidden in the uræmic symptoms of acute nephritis, but it is a valuable addition to our therapeutic agents in the chronic condition we are now considering. It relieves the asthma, it checks the vomiting, it calms the headaches, it secures sleep, and in the status epilepticus of uræmia it curtails the fits and prevents their recurrence.

For the convulsions themselves, chloroform inhalations, when the patient is unable to swallow, or chloral hydrate in 20 to 30 gr. doses by the mouth, or 40 to 60 gr. by the rectum, will prove our best remedy.

No case is ever so bad as to be beyond the hope of relief by treatment, and there is sometimes a most agreeable surprise in store for us when, out of the status epilepticus, or the deep, profound coma of uræmia we find our patient restored—temporarily it may be, but still restored—to a condition when activities of life are again resumed, and the patient is again enabled to discharge his social and domestic duties for perhaps months or years subsequently.

ART. VIII. — *Pathology of Nephritis.*^a By H. C. EARL, M.D., F.R.C.P.I.: Pathologist to the Richmond Hospital.

It is hardly necessary for me to explain that I do not propose to deal with the pathology of nephritis in any very exhaustive way. The subject is so large that it would be impossible to do so within the limits of this paper. I have thought it best to confine myself to a consideration of some of the more important parts of the subject, and I propose to deal with the ætiology of nephritis, its classification, and the pathology of the changes in the heart and vessels, as these changes appear to me very largely responsible for many of the symptoms of the disease. Even with the subjects I have named I can deal only very shortly, and I do not propose to consider at all the causation of œdema or of uræmia. Much of the discussion that took place about nephritis for a considerable time after Bright's discovery of the connection between renal disease and albuminuria and dropsy dealt largely with the anatomical varieties of the disease, and only comparatively recently has much attention been given to its ætiology. When certain chemical bodies are excreted by the kidney we know that they exert a harmful influence on the epithelium of the glomeruli and of the tubes, and show evidence of this influence by degenerative and inflammatory changes in the renal parenchyma, and by the presence of albumen and tube casts in the urine. The changes may affect the blood vessels and the interstitial tissue as well as the epithelial cells of the tubes, but in the milder cases they affect the epithelial cells only. It has been attempted, both from the pathological and from the clinical standpoint, to separate the cases where only degenerative effects on the epithelium are produced from those in which the condition is more distinctly of an inflammatory kind. But it is neither clini-

^a Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, January 31, 1908. [For the discussion on this communication see page 223].

cally nor anatomically possible to draw a sharp line of distinction, for purely degenerative affections often cause very marked urinary changes, and though these processes in the epithelium must be considered as only degenerative if one holds the view that inflammatory changes occur in the interstitial tissue alone, it is usual to consider them as inflammatory for one reason among others—that the same irritant which in small quantity produces these degenerative changes in greater quantity or longer duration produces distinctly inflammatory conditions of the interstitial tissue.

We know a good many substances which act as exciting causes of acute nephritis. Of these all are poisons of one or other sort. For instance, in scarlatina and in many other infectious febrile diseases, acute nephritis is common, but it occurs also in some non-febrile conditions, such as beri-beri, so that it is due not to the rise of temperature but to the microbes that cause these diseases or to their toxins. There is evidence that the bacteria in some cases can be the exciting cause of the disease, for it is possible to produce acute nephritis by intravascular injection of micro-organisms, such as *Staphylococcus aureus*, *anthrax bacillus*, and others: while the products of these organisms had no effect, or very little, on the kidneys. On the other hand we know that nephritis is common in diphtheria, while the diphtheria bacillus is not present in the kidney or other tissues, and injection of diphtheria toxin is known to produce nephritis.

Acute nephritis is also produced by soluble poisons of non-bacterial origin. Many of these have been found capable of producing nephritis of slight or marked degree according to their nature and the duration or intensity of their action. Of these, some are such as are used in small quantities for medicinal purposes, such as tar, glycerine, mercury, sulphuric acid.

Certain abnormal urinary constituents, such as acetone, can, during their excretion by the kidney, cause nephritis, and probably acetone is sometimes, if not always, the

cause of the chronic nephritis which occurs in diabetes. At any rate, albumen and acetone often begin to occur in the urine at about the same period of the disease.

There are also certain substances, such as potassium chlorate, which give rise to hæmoglobinuria by cytolysis, and sometimes to nephritis. It is probable that this cytolysis is the cause of the acute nephritis which follows burns, and it is possibly also the cause of the nephritis which occurs in certain chronic skin diseases. There are certain cases of acute nephritis, such as those that are due to exposure to cold and those occurring in connection with pregnancy, that so far have not been satisfactorily explained, and are not known to be caused by any sort of poison. But in those cases of acute nephritis of which we know anything of the exciting cause, that exciting cause is a poisonous substance of some sort.

But when we come to consider chronic nephritis we find that we have little or no knowledge of the exciting cause in either of its varieties.

Thus we find so-called chronic parenchymatous nephritis is attributed to continued or repeated action of cold or damp, to various constitutional diseases, to cardiac disease, to chronic intoxication, particularly to alcoholic excess (though this is more concerned in the production of the interstitial form of the disease), and to heredity, most of which, and probably all of which, are to be considered as merely predisposing causes. And as to interstitial nephritis, except that there is some relation to gout, to lead poisoning, and probably to diabetes, so that the poison of gout, lead, or some abnormal urinary constituent may possibly be the exciting cause in some of these cases, we know very little about the causation. We may perhaps conclude from what we know of the exciting causes of acute cases that chronic cases have exciting causes of the same nature; and we must suppose, I think, as the renal condition is a progressive one, that the cause must be one which is long-continued in its action. The chronicity of nephritis has been attributed by Ascoli and

Figari to nephrolysins. They injected emulsion of dog's kidney into rabbits subcutaneously and found that a cytolytic substance or nephrolysin (heteronephrolysin) was produced in the rabbits' serum which did not, when injected into dogs, affect the red corpuscles, but after four to eight days' latency produced an intense albuminuria with blood and casts in the urine, which condition lasted often two and a-half months and over. They never succeeded, however, in producing œdema or uræmia, but a condition of general ill-health was produced. After ligature of the ureter or nephrectomy on one side in rabbits, their serum contained an isonephrolysin—that is, when injected into other rabbits it produced the same result as those detailed in dogs after a latent period of a few days, but the results were less marked.

Dogs, after injection of heterolysins, have in their serum an isolysin, for when the serum is injected into other dogs after a latent period nephritic symptoms are produced. Further, there is evidence of autolysins production, as rabbits after ligature of the ureter, or nephrectomy, not only form an isolysin, but also sometimes, but not always, have themselves albuminuria.

Generally, then, injury to the kidney in the same animal, or in one of another species, even when the injury is so slight a matter as that produced by nephrectomy or ligature of the ureter, produces abnormal metabolic products or nephrolysins. The production of autolysins would account in these cases for the chronicity of the disease. If a dog is injected at the same time with heterolytic serum and also with the serum of a dog which was injected with heterolytic serum some weeks before and has overcome its effects it is found that the latent period is seven days longer than if only heterolytic serum is injected. So there is some evidence of anti-nephrolysins. The existence of these would account for the fact that removal of one kidney or ligature of the ureter does not always cause albuminuria, and also why it is not easy to produce strong isolytic serums as it is to produce strong heterolytic

serums. It suggests, too, how the healing of such experimental lesions occurs. These nephrolysins, if their existence is confirmed, and it has received some confirmation, will probably become of great importance in the pathology of nephritis. I shall have to refer to them again in connection with hypertrophy of the heart.

After Bright had published his conclusions that œdema and albuminuria were connected with renal disease he and many of his followers gave very accurate and anatomical descriptions of different varieties of diseased kidneys, and for a very long time more attention was paid first to the anatomy and afterwards to the histological changes in the kidneys as a basis of classification of nephritis than appear to be justified by its importance. Bright himself described three chief varieties, which seem to correspond to amyloid kidney and chronic parenchymatous and granular kidney. He did not commit himself to their identity, but was inclined to regard them as various stages of the same disease. He considered the disease probably degenerative, but possibly inflammatory, and due to substances carried from the skin.

Rayer describes six forms of renal disease—two acute and four chronic. He did, however, separate these forms strictly from each other. Henle gave the first detailed description of the histology of diseased kidneys. He described an inflammatory exudation partly into the tubes and partly into the interstitial tissue, and its organisation in the latter case into connective tissue.

Frerichs also believed the affection inflammatory, and described three stages:—(1) Hyperæmia with beginning exudation: (2) exudation and beginning retrogression: and (3) retrogression and atrophy. But he doubted the existence of connective tissue in nephritis as a rule.

Traube separated clinically and pathologically amyloid kidney and congested kidney from proper nephritis. He considered the interstitial changes primary and the tubal secondary, and rejected the idea of parenchymatous changes altogether.

The recognition of amyloid disease and simple congestion, and their separation from nephritis, put an end to much of the confusion that had existed.

Wilks, on the other hand, considered interstitial nephritis an independent affection. The views of George Johnson are very important. He considered nephritis to be a constitutional and not a purely local affection, and due probably to some morbid condition of the blood, and that the epithelial cells of the tubes, and particularly of the convoluted tubes, were mainly affected (acute and chronic desquamative nephritis).

In the chronic forms, which correspond to contracted kidney, he described thickening of the basement membranes of the tubes and the formation of fibrous tissue. He also described the thickening of the arteries, and particularly described large white kidney as a variety of parenchymatous nephritis and its occasional change into contracted kidney. He considered contracted kidney as an independent affection. His views, which were largely held in England, of the duality of nephritis were directly opposed to those of Frerichs, who considered the different anatomical appearances were due to the same disease in different stages.

Much of the discussion as to the anatomical classification arose probably from the fact that in these comparatively early times histological methods were not sufficiently good to allow of accurate investigation of the renal changes. Weigert, working by improved methods, expressed himself as strongly opposed to the idea that nephritis could be separated into different anatomical varieties according to the particular tissue involved. He insisted that parenchymatous changes were always accompanied by interstitial changes, and that the differences in the amount of interstitial tissue were solely of a quantitative kind. He pointed out that differences in the colour of the kidney were mainly due to two circumstances—first, the amount of blood in the kidney, and secondly, the amount of fatty change of the epithelial cells.

The parenchymatous changes he considered as a rule primary, and the different anatomical forms differed according to the course and duration, and his classification is mainly based on the different degrees of chronicity of the disease in different cases.

Weigert's views are in the main shared by Senator and many other authorities, and it is certain that no such thing exists as a nephritis, acute or chronic, which involves only one tissue of the kidney, except such acute cases as merely cause parenchymatous change in the tubal epithelium. Such cases are considered purely degenerative by many.

The use of the terms parenchymatous and interstitial, however, is still common, and provided we do not take them in their literal meaning they are no more inaccurate than many other medical terms we all use. Of course, diffuse nephritis with predominance of parenchymatous change or of interstitial change would be more accurate. With regard to acute nephritis, with the exception of such cases as I have above mentioned, the changes are in all cases diffuse, and do not involve a single tissue, for though the terms glomerulo-nephritis and tubular nephritis are used they must be taken merely to mean such kidneys as have glomerular and tubular changes well marked, and not as excluding interstitial change, though, of course, such interstitial change may be very slight.

Now, with regard to classification, if we knew more of the ætiology of these conditions than we do it would be possible to classify nephritis according to its causation, which is, no doubt, a very satisfactory basis for a classification. But no classification based on the anatomical or histological differences in the kidneys can be wholly satisfactory, for, as has been pointed out, a sharp line of distinction cannot be drawn in either the anatomical features, and that though there are certain types, there are many kidneys that do not accurately correspond to either type. The classification usually adopted is based partly on the chronicity and partly on the tissue mostly

markedly involved—(1) acute nephritis; (2) chronic parenchymatous nephritis, or chronic diffuse nephritis without induration; and (3) chronic interstitial nephritis or chronic nephritis with induration.

A certain amount of sub-division of some or all of these classes has been attempted, and is perhaps convenient, though in using the terms employed they cannot always be taken quite in their literal meaning. Acute nephritis is sub-divided, according to the tissue most involved (for all except the slightest cases are diffuse), into glomerulonephritis, tubular, and diffuse, the last term being applied to cases where no particular tissue is pre-eminently affected.

Chronic indurative nephritis is usefully divided, according to its origin, into—(1) primary indurative nephritis; (2) secondary indurative nephritis (secondary, that is, to parenchymatous), and has generally included under it (3) arteriosclerotic kidney.

The terms contracted kidney and granular kidney are often used, and fit certain cases of interstitial nephritis. But in many cases the kidney is not contracted or granular, though it possesses the histological characters of interstitial nephritis. Chronic nephritis without induration it is not necessary to sub-divide, as the differences between the large white kidney and other anatomical varieties are not of any importance. The view that is sometimes put forward, that large white kidney is always affected with amyloid disease, is certainly not true.

Though amyloid kidney is enlarged and white, there are certainly kidneys corresponding to the description of Johnson which are not amyloid, but have the characters of diffuse inflammation without induration. It must be remembered that whether we consider there are two forms of chronic nephritis or only one the views of Frerichs are certainly incorrect, for although some cases of parenchymatous nephritis do become secondarily contracted the great majority of cases of interstitial nephritis, judging from the kidneys of cases which die early in the disease,

never have a stage in any way like parenchymatous nephritis. Though some cases of parenchymatous and interstitial nephritis have their origin in acute cases, this is only so comparatively rarely. Indeed, there is little doubt that some cases supposed to be acute nephritis giving rise to chronic are really only exacerbations of an existing but unrecognised chronic nephritis.

We have, however, two main types of chronic nephritis from the clinical point of view corresponding in typical cases usually to the two anatomical forms which are known as chronic parenchymatous and chronic interstitial nephritis, and even admitting that the differences in these two anatomical forms are differences in degree to the relative amount of the different tissues involved, and that there are clinically and anatomically many cases that did not accurately correspond to the types, some explanation is necessary of the different clinical course these typical cases follow, and a satisfactory explanation, I am afraid, is at present not forthcoming.

It has been supposed that the clinical differences are not due to any difference in the disease, but depend altogether on the heart—that if the heart does not hypertrophy we get the group of symptoms which we clinically associate with parenchymatous nephritis, and the patient generally dies before the interstitial changes have time to be well marked, so that the kidney is still large and frequently very fatty; while if the heart hypertrophies œdema does not occur, and the disease has time to progress further, so that after death the interstitial changes are not well marked. In support of ~~this~~ view it is pointed out that when the heart fails, as it does late in the disease, œdema does occur.

Now, even if this view were true, we should have to seek for some reason why hypertrophy occurs in some cases and not in others. But this view is quite untenable. Hypertrophy of the heart does not invariably occur in interstitial nephritis, and, moreover, it not at all uncommonly does occur in parenchymatous nephritis. Moreover, the

œdema occurring in interstitial nephritis, if we exclude cases of acute exacerbations, when it does occur late in the disease, is due to cardiac failure, and is quite of a different sort from that in parenchymatous nephritis. Besides, the hypertrophy of the heart does not occur in the very earliest stages of interstitial nephritis, and it is probable that the nephritis often materially precedes the cardiac change.

Though the histological changes in the kidney are not in these different—two different—classes strictly separable from one another, as we do not know the exciting cause of either form of disease, we have no reason for concluding that the cause in these two types of disease is the same. And it is quite possible that the difference in clinical symptoms depends on the difference in the exciting causes.

I now pass on to consider the changes in the heart and vessels. Bright pointed out the frequent occurrence of hypertrophy of the heart, and particularly of the left ventricle, without valvular disease. He considered the altered constitution of the blood acted as an irregular and unusual stimulus to the heart directly or that it stimulated the small vessels to contraction, and so affected the heart indirectly by calling forth greater exertion on its part.

Johnson and others confirmed Bright's observations, and considered the hypertrophy of the heart due to thickening of the walls of the small arteries. With regard to the frequency of the occurrence of hypertrophy of the heart, analysis of a large number of cases shows that it not only occurs in chronic interstitial nephritis but also, though less frequently, in chronic parenchymatous, and even in some cases of acute nephritis—for example, in scarlatinal nephritis.

About the relative frequency of its occurrence in different forms there is much difference of opinion, no doubt because the dividing lines between the different forms is not very distinct. Increase of blood pressure

occurs in acute cases before cardiac hypertrophy can be demonstrated. The hypertrophy sometimes affects the left side of the heart only, sometimes both sides, but mainly the left, and in contracted kidney it at the beginning affects only the left ventricle. In secondary contracted kidney there is also only hypertrophy of the left heart, and often the right heart is even atrophied.

In contracted kidney simple hypertrophy occurs unless indeed such circumstances are present as lead to secondary dilatation, such as temporary or permanent interference with the nutrition of the heart, such causal condition occurring much later in the disease in contracted kidney than in parenchymatous or arteriosclerotic lesions. In parenchymatous nephritis, on the other hand, the general impairment of nutrition favours dilatation, and eccentric hypertrophy is obvious. In arteriosclerotic kidney the heart muscle is impaired by decrease of the coronary arteries, while in true contracted kidney the hypertrophy precedes the alteration in the vessels.

The thickening of the arteries that occurs in the renal vessels might be the result of the inflammatory changes, and do not differ from those found in chronic inflammatory processes elsewhere, but of course in the arteriosclerotic form they are primary and the cause of the disease.

Gull and Sutton described a hyaline fibroid change in the walls of the small arteries affecting the intima and adventitia and a hyaline change in the capillaries. They consider these changes the cause of the renal affection, because they found in cases of cardiac hypertrophy the same changes in healthy kidneys. The appearances that Gull and Sutton described are almost certainly artefacts due to their faulty histological technique, and all coats of the vessels are generally considered to be thickened.

The cause of these cardiac and vascular alterations and their relation to each other is a matter of difficulty. Experiments have been performed on animals to learn the effect produced by excluding part of the renal tissue from the circulation, but the results obtained varied so

much that no conclusions can be drawn from them; but the frequency of cardiac hypertrophy in nephritis makes it certain that some connection exists between these conditions, and it is found that in other conditions of the kidney involving loss of parenchyma, hydronephrosis, congenital absence of the kidney, occlusion of a ureter, cardiac hypertrophy occurs commonly, and where it does not occur it is probably due to the general state of low nutrition not allowing it, and in fact loss of renal tissue is generally followed by cardiac hypertrophy.

Two sets of views have been held as to the causation of cardiac hypertrophy. By one it is attributed to certain physical conditions: by the other to a supposed altered chemical composition of the blood. I shall briefly refer to the physical explanation first.

It has been supposed that the aortic pressure is increased, and so the heart made to do more work, by the destruction of numerous small vessels in the kidneys or by compression of the vessels by inflammatory products. No doubt in nephritis the blood does meet with increased resistance in its passage through the kidney, but this could hardly cause increase of pressure in the aorta, as even ligature of both renal arteries fails to do this.

It has also been supposed that the pressure is increased on account of the diminished excretion of fluid by the kidneys, but in contracted kidney the water excretion is generally increased, and certainly not diminished, and even if it were the vascular system is capable of accommodating itself easily to even a greatly increased quantity of fluid. Another explanation on physical grounds is that the compression of vessels by serous effusion causes the heart to hypertrophy by increasing its work. This explanation might avail in cases of nephritis with dropsy, but not in contracted kidney, where the hypertrophy of the heart is most frequent.

Gull and Sutton supposed that the hypertrophy did not arise from the renal disease, but that both arose from the diseased vessels which they considered the primary affec-

tion. But though this is so in arteriosclerotic kidney it is not so in true contracted kidney, where the hypertrophy of the heart comes on often only when the disease has lasted some time.

Johnson attempted to explain hypertrophy of the heart in contracted kidney as follows:—The blood charged with excrementitious material on account of the nephritis stimulates the small arteries to contract, and thus affects the heart. The result is hypertrophy both of the heart and of the muscular coat of the vessels. But hypertrophy of the muscular coat of the arteries does not always occur, and if it did occur in the kidneys the amount of blood going to them and to the urine would diminish instead of increasing as it does. These theories, then, do not cover the facts of the case, and they do not explain in particular the hypertrophy that occurs in the right ventricle and auricle.

There is some experimental evidence that the retention of nitrogenous metabolic products is an irritant to the vascular system, for injection of urea into the blood causes increase of pressure, due to spasm of the small arteries. Of course such spasm is only temporary, but repeated attacks of spasm can cause hypertrophy of the heart, and what is true of urea is true also of other urinary substances, and though a large quantity of urea was used in these experiments it is possible that other substances in small quantities may have a large effect.

Senator believes that it is necessary to assume different causation for the hypertrophy in nephritis of different kinds. He believes that in acute nephritis and in chronic parenchymatous nephritis the vessels and the heart are strongly irritated by metabolic products, and that if the irritation continues as it does in chronic cases a contraction of the vessels, sometimes with thickening, occurs, and also general hypertrophy of the heart, due to the chemical irritation, but more on the left side than on the right, as the left, besides the direct irritation, has to overcome the contraction of the vessels.

In contracted kidney, on the other hand, the irritation is less, but being continued it leads to some contraction of the vessels, and so to hypertrophy of the heart.

In contracted kidney, however, the kidney is very slightly altered in the early stage of the disease, and it is not improbable that the poison causing the renal condition may cause also the cardiac and vascular change. Finally, nephrolysins are believed to cause hypertrophy of the heart. Rabbits, whose ureters were tied on one side, lived from two to eight weeks. Very frequently they showed a marked hypertrophy of the left ventricle chiefly, which was the more remarkable as they did not live very long. So that, besides the production of isolysins and autolysins, there was this alteration in the heart. Again, if the serum of a normal rabbit be injected into the veins of a dog the blood pressure is unaltered; but if heteronephrolytic serum from a rabbit be injected the blood pressure is markedly increased, due to contraction of peripheral vessels. Whether the effect on the heart is produced by the contraction of the vessels or also by a stimulation of the muscle is not certain.

ART. IX.—*Manifestations of Congenital Syphilis in the Nervous System.*^a By ALBERT E. WYNNE, M.A., M.D. Univ. Dub.; F.R.C.S.I.

THE literature relative to diseases of the nervous system due to acquired syphilis is very extensive, while that having reference to similar manifestations due to congenital syphilis is remarkably meagre. I have recently seen two cases in one family of marked disease of the nervous system due to inherited syphilis, and think it may be of interest to record them.

The first case was that of a boy, W. J., twelve years old. His mother stated that he was a fine, healthy, intelligent child until he attained his seventh year, when he had a severe attack of

^a The substance of this article was read as a Thesis for the Degree of Doctor of Medicine in the University of Dublin. December, 1907.

convulsions, lasting for thirty-six hours. Afterwards he was quite simple and, as his mother expressed it, "real wild." He was sent to school, but was unable to learn, and he gradually became more uncontrollable. He developed gradual loss of power in the right leg and right arm during the twelve months previous to his admission, in the year 1900, to the Stewart Institution for Imbecile Children. Dr. Rainsford, Resident Medical Superintendent, informs me that the boy suffered from severe epileptiform convulsions a year after his admission, and that the paresis of the right leg became much worse. He was transferred to the Richmond Lunatic Asylum in the year 1905, and I am informed that he died in that institution in the same year.

I did not keep notes of this case, and the patient's eyes were not examined before his admission to the Stewart Institution, but I think that, in view of the conclusive evidence in his brother's case, there can be no doubt that his symptoms were due to congenital syphilis.

The second case is that of a boy, D. J., now aged sixteen years and eleven months. He is the third eldest child of a family of seven. One child, W. J., died in the Richmond Asylum as mentioned above. All the other children are stated to be quite healthy. The mother had two still-born children before she had a living child. She also had a still-born child in the year 1895. All the children born alive are stated to have been quite healthy at birth and to have shown no sign of disease in infancy. I failed to elicit a history of cutaneous rash or eye trouble during the infancy of any of the children. The boy, D. J., was noticed to be less robust than the other children, but was otherwise healthy. He had a slight attack of convulsions in infancy, which was believed to be due to teething. He was sent to school when seven years old, but was able to learn very little, and was only in second book when he left school at the age of fourteen. His mental condition was never very strong, but it has become much worse during the past three years. About the time he left school he complained of pains in both legs, which his mother attributed to laziness. His legs, however, gradually became weaker, and finally, about four months ago, he was quite unable to stand by himself, and was in consequence confined to bed. He still complains of pains in the legs at night. His arms also have been

gradually getting weaker, and he now has to be fed by hand. He had an epileptic fit in November, 1906, and a second one four or five months subsequently. He has complained of impaired vision for the past six months. He has never suffered from vomiting, and has always had a good appetite.

The general examination of the patient discloses the following points, viz. :—He looks stupid, and is rather expressionless. He does not seem to understand what is said to him, and is unable to speak distinctly. It is difficult to fix his attention on any one subject. He is restless, and constantly moves his head and eyes from side to side in an irregular manner. He is totally unable to stand, showing a marked inclination, when supported on his feet, to fall backwards. He is unable to sit up in bed. He has some power in his upper extremities, but his hands and arms are weak, though not wasted. He has a broad, flat forehead. The nose has the typical depressed bridge that results from snuffles in infancy. The free edges of the nasal bones are thickened, and the right one is nodular near the middle line. The left eye shows internal strabismus, which his mother states has been present since his first dentition. The pupils are equal, and react both to light and to accommodation. The two upper central incisor teeth are small, and are narrowed at the free margin, which shows a concave groove, marked on the inner aspect.

Examination of the upper extremities shows no visible wasting. All the tendon reflexes are exaggerated. He has marked tremor of the hands, and is now unable to feed himself. Intention tremor could not be demonstrated owing to the patient's lack of intelligence. The tongue is tremulous. There is also tremor of the lips when the tongue is protruded.

Examination of the thorax and abdomen shows nothing very abnormal. The superficial reflexes are perhaps exaggerated, and the patient is very sensitive to touch. The lower extremities are not markedly wasted. Rectus clonus, ankle clonus, exaggerated knee-jerks and Babinski's sign are all well marked on both sides. There is also some rigidity. There are no symptoms of bulbar paralysis. The hearing is good. The bowels do not act without purgatives. He has fair control over his bladder, but occasionally passes urine under him. He has occasional attacks of crying and irritability, which last for a few hours. As a general rule he is quiet, and is quite satisfied with himself and his surroundings. His temperature is uniformly normal.

He has no bed sores. Examination of his eyes shows remains of old iritis (synechia posterior) in both eyes ; optic nerve atrophy, right most complete ; disseminated choroiditis, right and left, not very extensive. His pulse rate averages 80 per minute, and respirations are 18 to 20.

The evidences in favour of congenital syphilis as the cause of this patient's illness are, I think, unmistakable. The eye symptoms alone are sufficient to settle the diagnosis. There is evidently a lesion of the crossed pyramidal tracts. The case is, in my opinion, one of diffuse syphilitic sclerosis, with dementia, due to congenital disease.

On looking up the literature in regard to dementia as a result of congenital syphilis I find that Jonathan Hutchinson states as follows:—"As a matter of clinical observation I would suggest that it is not at all uncommon to note a slight deficiency in vigour of intellect in the subjects of infantile syphilis, but that anything amounting to dementia is certainly rare." In support of this view Mr. Hutchinson quotes the opinions of Dr. D. Hack Tuke, of Earlswood Asylum, Dr. Langdon Down and Dr. Shuttleworth, of Lancaster Asylum. Only one case of dementia due to congenital syphilis which required treatment in an asylum is recorded by Mr. Hutchinson.

Charles W. Burr, M.D. (Starr's "Diseases of Children") refers to Ireland's statement that "mental disturbance coming on after infancy is not uncommon in the subjects of inherited syphilis, and that many cases present the same symptoms as are found in birth palsy—viz., spastic paralysis, fits and weak-mindedness." Barlow and Bury state that juvenile dementia is more often due to syphilis than is usually recognised. George Carpenter, M.D., in "Syphilis of Children in Every-day Practice," states that "of 500 cases in the Royal Albert Asylum for Idiots at Lancaster, Telford-Smith found only three acknowledged cases of congenital syphilis. Eight cases presented undoubted stigmata, and others were probably luetic. All the statistics point to the fact that congenital syphilis is answerable for but few of the cases of the kind. The syphilitic cases usually resemble the birth palsies. They

have spastic paralysis, are mentally defective in varying degree, and often suffer from fits."

I have also looked up the literature regarding diseases of the nervous system due to congenital syphilis. Hutchinson heads one of the chapters of his book as follows:—"On the comparative rarity of Diseases of the Nervous System in Inherited Syphilis." and proceeds to state that "the large group of nervous affections which we encounter in the late stages of tertiary syphilis of the acquired form appears to be scarcely represented in the subjects of the inherited disease. I do not know of any case of locomotor ataxy which has been recorded as occurring in such association. I have myself never seen one, and I have met with exceedingly few of those paralysees of single ocular nerves which are so common in the acquired disease." Sir W. R. Gowers, in his work on "Syphilis and the Nervous System," states that "nerve degenerations such as succeed acquired syphilis in the adult are met with also in young persons who are subjects of the inherited disease. Such cases, it is true, are rare. He records two cases of locomotor ataxy, one of pseudo-hypertrophic paralysis, and one of general paralysis of the insane. Charles W. Burr, M.D., in Starr's "Diseases of Children," quotes the following cases of nervous affections due to inherited syphilis—viz., Morocco, three cases of disseminated sclerosis, two of which improved under specific treatment. Dixon Mann, a case of progressive weakness in the legs in a boy of fifteen, who after two years became completely paraplegic and anæsthetic. Muscular rigidity, increased reflexes, girdle pain, paralysis of bladder and a slight bedsore were present. Fever was absent. The patient recovered after four months' treatment. Burr further adds that almost all of the few known cases of locomotor ataxy occurring in children had distinct hereditary taint. He does not quote cases, but states that Remak and Fournier detail several such.

Arthur H. Ward, F.R.C.S., in "Clinical Studies of Syphilis," states that "the spinal cord seems rarely affected in inherited syphilis, but paraplegias of varying intensity have been traced to the disease." F. W. Mott, M.D., in an article on

"The Diagnosis of General Paralysis," writes as follows:—
"I have now collected more than forty cases of juvenile general paralysis; congenital syphilis could be determined in 80 per cent., and in the remainder it could not be excluded; but the existence of syphilis can very often only be determined by careful examination of brothers and sisters, by the history in the mothers of miscarriages and still-births, and by a careful examination and inquiry of both parents. It is remarkable how often one found absolutely no sign of syphilis on the body of a juvenile paralytic patient suffering from general paralysis, whereas brothers and sisters showed well-marked signs."
"About 3 per cent. of the cases of general paralysis dying in the asylums are certainly due to congenital syphilis, and are of the juvenile kind." "Were it not for the fact that syphilis produces miscarriages, abortions and still-births, and deaths in early infancy, the number of juvenile paralytics, and cases of other nervous diseases, functional and organic, due to congenital syphilis, would be infinitely more numerous than they are."—(*The Practitioner*, January, 1908.)

LIGATION OF THE EXTERNAL CAROTID ARTERY.

DR. CHEVALIER JACKSON describes a series of cases of ligation of the external carotid artery for hæmorrhage from the throat and nose, and recommends the operation as much the best treatment, when hæmorrhage has become serious, in such cases as incision of the tonsils, &c. He also says that, in cases of nasopharyngeal fibromata, it is possible to ligate both external carotids by leaving a week or so between the respective operations, and thus doing away with the alarming hæmorrhage which is so often seen. It may be here remarked that several other operators have not met with the same success in stopping hæmorrhage as Dr. Jackson, and the operation, while easy enough in a general hospital, with surgical assistance, would be anything but a pleasant task if the operator had not at his command the latest appliances.—*Transactions of the American Laryngological Association*, 1907.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College; and HUMPHRY DAVY ROLLESTON, M.A., M.D., F.R.C.P., Physician to St. George's Hospital and to the Victoria Hospital for Children, sometime Fellow of St. John's College, Cambridge. Vol III. London: Macmillan & Co. 1907. 8vo. Pp. xiv + 1040.

BEFORE we draw attention to some salient facts in connection with the third volume of the second edition of "Allbutt's System of Medicine," may we be allowed to congratulate the learned and courtly Regius Professor of Physics in the University of Cambridge on receiving the honour of Knight Companion of the Bath at the hands of His Majesty the King. In so honouring Dr. Thomas Clifford Allbutt, the Sovereign has honoured the great Profession of which the Regius Professor is so distinguished a member, and- we would respectfully add - he has also done honour to himself.

It would scarcely be going too far to say that the volume before us has been re-written from cover to cover. In the list of contributors four notable names are printed in italic type - those of authors by whose deaths Medicine and the Commonwealth are alike the poorer. Herbert W. Allingham, Julius Dreschfeld, C. H. Ralfe, and Sir William Roberts rest from their labours.

The contents of this volume are grouped under three headings - general diseases of obscure origin, diseases of the alimentary canal, and diseases of the peritoneum.

We are glad to find that acute rheumatism no longer appears under the first category. It was properly dealt with in the first part of Volume II. under the heading "Infective Diseases of Uncertain Origin." A clear distinction between rheumatoid arthritis and osteo-arthritis has been drawn by Dr. Archibald E. Garrod in his articles on those affections, with which the volume opens. The "Articular Lesions of Infective Diseases" is the title of a third contribution from Dr. Garrod's pen, and he also gives a short account of "Intermittent Hydrarthrosis." An interesting description of pulmonary osteo-arthropathy is contributed by Dr. H. Batty Shaw, of University College Hospital.

In the section on Diseases of the Alimentary Canal an erudite article on the vexed question of the bacteriology of diarrhoea has been written by Mr Charles Slater, M.A., Lecturer on Bacteriology at St. George's Hospital.

In the same section we are disappointed to find that Dr. A. Keith has retained the hybrid word "visceroptosis," to which we naturally took exception when reviewing the first edition more than ten years ago.

The article on the differential diagnosis of diseases of the Anus and Rectum, written for the first edition by the late Mr. Herbert W. Allingham, has been revised by Mr. P. Lockhart Mummery, Assistant Surgeon to St. Mark's Hospital, who has introduced a coloured plate showing various morbid appearances as displayed by the sigmoidoscope. There are six figures in this plate, and they certainly testify to the value of the instrument for diagnostic purposes.

The masterly article on ulcer of the stomach, by the late Dr. Julius Dreschfeld, stands as a monument of his learning and clinical acumen. It is followed by an excellent account of tumours of the stomach by Dr. W. Hale White.

Surgeons will read with interest the section which treats of Diseases of the Peritoneum, and particularly an introductory article on "Shock," by Dr. T. G. Brodie, Lecturer on Physiology at the London School of Medicine for Women. In this section also will be found a new

article on subphrenic and other forms of peritoneal abscess by Dr. Theodore Dyke Acland.

Enough has been written to show that this volume well sustains the high reputation of the "System of Medicine." A feature in the work is the disuse of the diphthongs "æ" and "œ" in favour of the double letters "a e" and "o e." Thus, we find "melaena," "haemorrhage," "haematemesis," "oesophagus." In this we recognise, perhaps, a reaction from the American spelling, which has done so much to obscure the derivation of medical terms.

A Manual of Prescribing: for Students and Practitioners of Medicine. By C. R. MARSHALL, M.D.; Professor of Materia Medica and Therapeutics in the University of St. Andrew's; Assistant Physician to the Dundee Royal Infirmary. London: J. & A. Churchill. 1908.

As Dr. Marshall reminds us in his preface, there is a danger that prescribing is becoming a lost art. It is certain that there is nothing like the same attention given to it now as there was two or three decades ago. We cannot afford yet, however, to allow the tabloid and pill to usurp the place of a well-considered and elegant prescription, so we welcome anything which helps to keep the art alive by aiding in and simplifying the study necessary for its mastery.

With this object we can recommend Dr. Marshall's manual to students and practitioners. It is simply and clearly written, and full of suggestive precepts and examples.

The introductory section deals with and fully explains the form of a prescription, and also the various weights and measures with their equivalents both the imperial and metric systems being given. This is followed by chapters on "Modes of Administration" and on "Solubility."

The great stumbling-block of Incompatibility is next dealt with in a sensible and simple manner, not overloaded with a multitude of improbable combinations in-

volving abstruse chemical considerations, but as far as possible on general principles. We think that the numerous examples of incompatibility collected in a section apart at the end of the book would have been more useful and instructive if they had been interspersed as illustrations through the chapter on that subject.

The section on the different forms in which medicines may be prescribed is very full and well furnished with examples. The number of prescriptions, however, is so large that we venture to think that it would have been better if a smaller number had been given, and a note appended to each, pointing out some feature worthy of notice. A long list of prescriptions without note or comment is liable to be passed over. For example, twelve prescriptions of emulsions and eighteen of pills would require not only that the student be very ardent to study all, but very wide awake to pick out the special feature each is supposed to illustrate.

Guide to the Diagnosis in Diseases of the Throat, Nose, and Ear.

By DAN MCKENZIE, M.D. London: Rebman, Ltd. 1908.

A GOOD many small books dealing with the subject of the nose, throat, and ear have of late appeared, and each has some good point. In spite of this, the author of the work under consideration has succeeded in giving us a real addition to the literature of his subject, though he does not claim to have departed from the usual arrangement in many directions.

The points worthy of special comment are—the very clear advice and direction as to how an examination of these regions should be systematically carried out, the omission of the usual useless woodcuts of instruments, and the inclusion of a chapter on the mouth and œsophagus, points often forgotten in the special text-books.

Little or nothing has been inserted about treatment, and this is as it should be, for if the student attends a special department he will have plenty of opportunity of seeing what is done—a far better mode of acquiring the knowledge and skill necessary to treat the simplest case.

The chapter on the microscopical examination should prove of great assistance, as the methods necessary are laid down distinctly.

Reports on Plague Investigations in India. Issued by the Advisory Committee appointed by the Secretary of State for India, the Royal Society, and the Lister Institute. (Special numbers of the *Journal of Hygiene* - September, 1906; July, 1907; December, 1907.) Cambridge: At the University Press.

THE interim reports of the Advisory Committee appointed by the Secretary of State for India, the Royal Society, and the Lister Institute, to make investigations on some of the problems concerning plague, are appearing from time to time in special numbers of the *Journal of Hygiene*. Immediately following its appointment, the Advisory Committee established a working Commission, organised in the first instance by Dr. C. J. Martin, Director of the Lister Institute, and afterwards placed under the direction of Major Lamb, I.M.S., Director of the Pasteur Institute at Kasauli. The head-quarters of the Commission are at the Plague Research Laboratory, Parel, Bombay. Up to the present three interim reports have appeared - one in September, 1906; one in July, 1907; and the third in December, 1907.

The work which the Commission has so far undertaken includes epidemiological observations as well as laboratory experiments. Attention was at first directed to a study of the epizootic spread of plague among rats, the relationship of the epizootic to the epidemic, and the modes by which the disease may be communicated from rat to man.

The Reports are conveniently arranged, and the description of the detailed experiments given in each section are followed by summaries of conclusions. We propose to abstract a few of these conclusions, merely remarking that none of them seem to go further than is warranted by the experiments.

It was possible to infect healthy rats by permitting fleas to pass from infected rats— all other means of communication except aerial being excluded. Moreover, healthy rats living in flea-proof cages contracted plague following the reception of fleas collected from rats dead or dying of plague. On the other hand, close contact of plague-infected animals with healthy animals, when fleas were excluded, did not give rise to an epizootic. Fleas being present, however, and an epizootic once started, its severity and rate of progress varied with the number of fleas present and the season of the year. The season in which epizootics were readily produced experimentally, and spread rapidly, corresponded with that of the plague epidemic.

Bearing on the relation of fleas to plague-infected houses, it was found that even in houses previously disinfected by the ordinary means fleas could be caught by allowing guinea-pigs to run free in the houses. Most of the fleas were rat-fleas, and many of the animals contracted plague. The fleas caught on animals set free in infected houses were able to cause plague in other animals. Of animals placed in pairs in infected houses, both protected from soil and contact infection, but one protected from fleas by a fine metallic curtain and the other not, none of the protected animals developed plague, while several of the unprotected animals did so. A similar result was observed when, instead of a metallic curtain, a zone of "tangle-foot" was employed. An epizootic, moreover, might occur where there were infected fleas without direct contact of healthy animals with diseased.

A study was made of the periods of time for which floors grossly contaminated with the plague bacillus remained infective. It was found that floors of cow-dung remained infective for forty-eight hours, the infectivity being tested by rubbing scrapings into susceptible animals, and that they were infective for twelve hours, but not for twenty-four, to animals allowed to run about on them. On the other hand, floors of chunam did not retain their infectivity by scrapings even for twenty-four

hours, and they were infective to animals running on them for six hours, but not for twelve.

With a view to testing the statement of Hankin, Yersin, and others—that passage of the plague bacillus through a series of rats is a matter of difficulty—certain experiments were undertaken. The result is of importance, for if Hankin's statement is true it would follow that for the maintenance of an epizootic an intermediate host is necessary. In the experiments undertaken it was found possible to carry the series of inoculations to the twenty-sixth passage without recourse either to other animals or to artificial culture media. There was no diminution of virulence noted, the average duration of life at the end of the series being practically the same as at the beginning.

Investigations were made of the number of plague bacilli in the blood, urine, and fæces of rats either dead or moribund of plague. It was found that the blood of plague-infected rats might contain an enormous number of bacilli— as many as 100,000,000 per c.c. being sometimes found before death: but that, on the other hand, rats occasionally died of plague with little or no septicæmia. Even when the blood contained an enormous number of bacilli the urine might have none at all, or less than ten per c.c. Bacilli were found in the urine in twenty-nine per cent of the cases. The fæces were found to have only a low degree of infectivity when employed as matter of inoculation, and the fæces of plague-infected rats probably play little part in the spread of the epizootic.

With regard to septicæmia in the human subject of plague, an investigation of the blood of twenty-eight patients was made. In the blood of five who recovered, and of seven who died, the bacillus was not found at all. In the other cases it was observed that the septicæmia might be of an irregular or fluctuating type.

Several cases of chronic plague in rats came under observation. Those for the most part occurred when there was no plague of acute type either in rats or men in the neighbourhood. The lesions were mostly situated

in the abdominal region. Attempts were made to produce plague by feeding rats on the bodies of their fellows dead of plague. A fair number of positive results were obtained, but the investigators were of opinion that in nature infection rarely occurs in this way. Attempts to infect rats by feeding them on the urine of plague cases entirely failed. Of importance in judging of the mode of infection is the site of the primary bubo. In naturally-infected rats and in guinea-pigs infected by being placed in plague-infected houses the cervical bubo predominates. The same is true of rats and guinea-pigs artificially infected by fleas. On the other hand, in animals infected by feeding the mesenteric bubo predominates. Evidence is brought forward to show that plague bacilli may multiply for some weeks in the stomach of the flea, and it was found that the rectal contents and faeces of fleas taken from rats with septicæmic plague contained abundant plague bacilli in a virulent condition.

It will be seen that the investigations of the Commission cover a wide area. They are all of value, but it is difficult at the present stage to sum up the net result. One fact, however, stands out in bold relief—the prominent part played by fleas in the spread of the disease. It is definitely stated that *fleas, and fleas alone, are the transmitting agents of infection* in epizootics.

The latest papers issued by the Committee consist of studies of the epidemiology of plague, and particularly of natural histories of plague epidemics in Bombay, in certain villages on its outskirts, and in two villages of the Punjab. These accounts are illustrated and authenticated by many maps and tables, and by detailed descriptions of individual cases, as well as of the modes of spread from patient to patient. The conclusions drawn are entirely in support of those arrived at from the study of epizootics as to the importance of the rat and flea in the spread of the disease.

An interesting point is discussed as to the relations borne by epizootics among *mus rattus* and *mus decumanus* respectively to the epidemic, and it is concluded that the

epidemic is directly attributable to the *rattus* epizootic, and the latter to the *decumanus* epidemic, though infection is occasionally transferred from *mus decumanus* to man without the intervention of *mus rattus*. The correspondence, however, between the *rattus* epizootic and the epidemic is very close both as regards time and quantitative relations. Moreover, this correspondence is always explicable on the view that the rat flea is the transmitting agent from the rat to man.

The question of the direct spread of plague from patient to patient has been considered, and the Committee believes that such a mode of infection does not exist. In regard to the infectivity of houses evidence is brought forward that the rat flea is the carrying agent of infection from rat to man, and it has also been shown that infection may be carried to a distance by rat fleas in clothing or merchandise, and that such infection may give rise to a rat epizootic.

The general conclusion may be stated then that human plague is entirely dependent on rat plague, and that the carrying agent both from rat to rat and from rat to man is the rat flea.

Green's Encyclopedia and Dictionary of Medicine and Surgery.

Vol. VI. Lumbar Region—Nephrotomy. Edinburgh and London: William Green. 1907. 8vo. Pp. x + 562.

IN this volume of Green's "Encyclopedia and Dictionary of Medicine and Surgery" there are forty-eight articles of more than 1,000 words. The longest article is on "Lung Diseases," which runs from page 19 to page 88, and includes sections on Tuberculosis, Pulmonary Fibrosis, Pneumonokoniosis (we congratulate the Editor and the Author on this spelling), Gangrene, Emphysema, Vascular Disorders, Syphilis, Abscess, and Parasitic Affections. Other notable articles are those on Diseases of the Mammary Gland, by Mr. H. J. Stiles; Forensic Medicine, by Professor H. Harvey Littlejohn; History of Medicine, by Dr. E. F. Willoughby, who also contributes a full account of Meteorology.

Professor Osler writes on Epidemic Cerebro-spinal Meningitis (why not "Epidemic Cerebro-spinal Fever" ?), his monograph being splendidly illustrated. The only contribution from Ireland seems to be Dr. H. C. Drury's "Morphinomania and allied Drug Habits," which is most entertaining and instructive reading. Whence did he get the spelling "Rhynd" for Mr. Francis Rynd's name ? Dr. Drury's remarks on treatment are excellent.

Among the Editor's (J. W. Ballantyne's) contributions to this volume are articles on Maternal Impressions, Midwives, and the "Midwives Act" of 1902. In the last-named the author describes the effects which the working of the Act is having upon medical practice in England and upon the training of midwives in Great Britain and Ireland. We may remind our readers that, unfortunately, the Act does not apply to the latter country.

Retinoscopy (or Shadow Test). By JAMES THORINGTON A.M., M.D. Fifth Edition, revised and enlarged. London : Rebman. 1906. Pp. 63.

THERE already exist some excellent works entirely devoted to the subject of retinoscopy, while all the modern ophthalmic text-books treat of it in a separate chapter. Most writers attempt to explain the phenomena of retinoscopy on optical principles with the help of more or less mathematics. We think this is the only rational way, because all that we observe in retinoscopy has an optical cause.

The student having mastered the theory is then expected to learn the practical application of the method for himself. Retinoscopy is both a science and an art. Our experience has taught us that the average student does not very easily learn the theory, and that until he does he cannot satisfactorily practise the art. Mr. Thorington, however, appears to think differently. He gives practically no explanation of anything, but devotes himself entirely to the practical difficulties of the subject and the way in which these are to be overcome. In fact, we very much doubt whether a student who had not learned the theory elsewhere would have a clear

idea of the "why" of any of the things that he is told to do practically. We think the book would be very much improved by a chapter on the optical principles underlying the subject. A book on retinoscopy should tell us all about it. Mr. Thorington gives us half, and, unfortunately, the second half. But what he does give he gives carefully and fully. He is evidently a very good practical man himself, and he gives us the fruits of his own personal experience and observations. He has done a good work in showing throughout the book that retinoscopy is not easy, and we entirely agree with him when he "reminds those who try retinoscopy, fail, and then ridicule it, that the fault with them is *back* and not in front of the mirror." We are told that the "patient *must* have his accommodation thoroughly relaxed with a reliable cycloplegic." Opinion differs as to this. We are not alone in thinking that in many, if not most, cases it is better not to dilate the pupil. The refraction of the periphery of the cornea and lens is often different from that of the centre; and the consequent opposing movements of the shadow, as correction is approached, create an embarrassment which more than cancels any advantage which a large pupil confers. There are a few printer's errors—*e.g.*, on page 40, the addition of $+0.5$ to -1 gives -1.5 instead of -0.5 .

Mr. Thorington's axonometer seems to be a simple and convenient help.

The book is written in an easy conversational style which will commend it to many. The fact that it has reached a fifth edition speaks for itself.

Studies in Blood Pressure, Physiological and Clinical. By
GEORGE OLIVER, M.D. Lond., F.R.C.P. London: H. K.
Lewis.

THIS small book contains two lectures on the physiological and clinical aspects of blood pressure measurement. The subject is very thoroughly treated. To all who wish to employ hæmomanometric methods the volume will be most valuable, both for its accurate descriptions of the modes of employment

and its indications of the deductions to be drawn from such readings.

There is no great difficulty in using the instruments described, which are capable of giving much more definite information than that obtainable by the finger-tip. Their employment will doubtless lead to greater accuracy in medical diagnosis. Time was when the physician who employed a thermometer to estimate fever was looked on as an ignoramus. His hand should have been enough.

In the chapter on clinical aspects we find useful information to be obtained by these methods in, amongst others, such various diseases as Addison's disease, nephritis, angina pectoris, epilepsy, cerebral hæmorrhage, insomnia, Raynaud's disease, migraine and melancholia. Indications for treatment are not omitted, and these methods will often correct our somewhat empirical use of drugs.

A Laboratory Manual of Invertebrate Zoology. By GILMAN A. DREW, Ph.D. W. B. Saunders Company. 1907. Pp. 201.

THE preface tells that the "manual has for its basis a set of laboratory directions prepared by members of the staff of instructors, to meet the needs of the class in general zoology, at the Marine Biological Laboratory of Woods' Holl, Massachusetts."

The work is well planned and carried out; it contains far more than any ordinary student could follow, but out of it can be chosen the types required in each case, and it is well to have a large number of types noted, as it is often uncertain what living specimens will be available. The plan is to give short directions what to do, and questions as to what is seen. The questions are never fully answered, only the kind of observation needed being indicated. Special attention is directed to "adaptation" in each form, so that far more than the dry bones of comparative anatomy will be laid bare by the diligent student who follows the suggested course of investigation. As practically no facts, description of structures or phenomena are given, the student being simply told what to do with indications of what kind of things he is to

look for, this is one of the small, but precious, circle of books which cannot be used for "cram" by those whose powers of memory are greater than their power of observation.

Nature's Hygiene and Sanitary Chemistry. By C. T. KINGZETT, F.I.C., F.C.S.; Past Vice-President, Society of Public Analysts; Hon. Member, Société Française d'Hygiène. Fifth Edition. London: Baillière, Tindall & Cox. 1907. Demy 8vo. Pp. xvi + 527.

THIS work has had a successful record. First published early in 1880, its second edition followed at the close of 1884. The third edition appeared in the Spring of 1888, the fourth in March, 1894. Thirteen years then elapsed, and it was not until the Summer of 1907 that the present issue was published.

We confess that we were surprised and disappointed when we read the following paragraph in the preface to the fifth edition:—"It is a matter for deep regret, in my view, that we have not yet seen the appointment of chemical officers of health to take the place of public analysts, and to deal with a number of matters concerning which they would as a body be far more competent than medical men as public health officials, such as (in addition to the analyses of foods, drinks, and drugs) the character of gas and water supplies, the treatment and disposal of sewage and refuse, chemical disinfection, purity of the air, dust-laying, the preparation of road surfaces, and so forth."

Oh! indeed, Mr. Kingzett. And may we ask to whom it is that the commonwealth of nations owes the great science of Sanitation or Public Health, which has been so well named State Medicine or Preventive Medicine, if it is not to the Medical Profession? And then, forsooth, when that science has been created, its administration is to be entrusted exclusively to other than medical hands. No. It will not do, Mr. Kingzett.

By its years of patient training, by its high-class and comprehensive preliminary education, by its compulsory study of the ancillary sciences, by its profound acquaintance with

the anatomy, physiology and pathology of the human body, the Medical Profession is pre-eminently fitted to discharge the duties of public health officials, including public analysts, in the persons of those among its members who are prepared to forego practice as physicians and surgeons and to devote their lives to Preventive Medicine.

We had not read far through the book before we met with evidence that the author was, perhaps, not so well qualified to write it (from a literary standpoint) as some of those medical men whom he would oust from the position of public analysts and public health officials—such phrases as “it gives a most beautiful *spectra*” (page 5), “neither of the last two supposed new elements *have* yet been isolated in the form of salts” (page 6). It is only fair to say that such blemishes of style and grammar are not numerous, and that, as a rule, Mr. Kingzett writes clearly and well. Naturally, a good deal of the book is devoted to disinfection. But we think the author would have been well advised to have omitted the scrappy and sometimes inaccurate “Notes on the Chief Infectious Diseases” in the tenth chapter. It is also a matter for regret that so much of the book should be given up to “Sanitas” and its praises. The author writes:—“Of the few disinfectants which may lay claim to all these characters” (specified in a quotation from the *Standard*, Sept. 11, 1878), “there are none better than the so-called ‘Sanitas’ preparations and appliances, for the existence of which I am personally responsible” (page 287). These preparations are mentioned over and over again, page after page, till the reader is inclined to think that in the author’s mind “Nature’s Hygiene” and “Sanitas” mean one and the same thing. As a matter of fact, in the really interesting account of the manufacture of “Sanitas” which Mr. Kingzett gives in Chapter XIII., he points out that his process of atmospheric oxidation of essential oils is an exact imitation of the process which necessarily occurs in nature in connection with every plant that secretes these so-called oils, and which is, of course, attended with the same results. The principle of the process is based on the fact that “when turpentine is exposed to the action of air it absorbs oxygen and gives rise to the production of

a peculiar organic peroxide which remains dissolved in the body of the oil, communicating thereto properties resembling those of ozone and peroxide of hydrogen. Inasmuch as the oil is volatile, these properties are communicated also to the surrounding atmosphere. If the oxidized oil be treated with water, or, what amounts to the same thing, if the oxidation of the oil be conducted in the presence of water, then, upon examination, the aqueous solution is found to contain peroxide of hydrogen, and it is accompanied by a substance resembling thymol ($C_{10}H_{14}O$), and the other substance named soluble camphor ($C_{10}H_{16}O_3$). The same products are obtained by the atmospheric oxidation of oil of eucalyptus, camphor oil, and every other essential oil which contains either cymene ($C_{10}H_{14}$), or a terpene—that is, a hydrocarbon of the formula ($C_{10}H_{16}$).” Every sanitarian admits that sanitas and its preparations are useful disinfectants and antiseptics, but we cannot help thinking that too much is claimed for them by Mr. Kingzett.

In the last chapter much interesting information is given about eucalyptus, pine and camphor forests, their hygienic influence, and the industries connected with them.

“*First Aid*” to the Injured and Sick. An Advanced Ambulance Handbook. By F. J. WARWICK, B.A., M.B., Cantab, M.R.C.S., L.S.A.; and A. C. TUNSTALL, M.D., F.R.C.S. Ed. Fifth Edition. Revised and enlarged. 30th Thousand. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co. 1908. Pp. 252.

ON more than one occasion we have expressed a favourable opinion of this handy “First Aid” manual. The fact that 30,000 copies have been struck off testifies to its popularity. In the present edition we find several improved illustrations, and the chapter on Transport of Sick and Injured has been extended and made more complete by the addition of fourteen new drawings.

The book is well brought out by the publishers, and is marvellously cheap. In a paper cover it costs only a shilling; in a limp cloth cover with flap it may be had for half a crown.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

THE SCIENCE OF HEALTH.^a By W. H. THOMPSON, M.D.,
Sc.D., &c. ; King's Professor of Institutes of Medicine in the
School of Physic in Ireland, Trinity College, Dublin.

"We live in deeds, not years; in thoughts,
Not breaths. . . ."

"We should count time by heart throbs."

—PHILIP JAMES BAILEY.

"Reason's whole pleasure, all the joys of sense

"Lie in three words,—health, peace and competence."

—POPE (*"Essay on Man"*).

HYGIENE has been defined as being not in itself a science, but the application of a number of sciences to the attainment of normal existence and development.

It may, therefore, be questioned whether it is strictly correct to speak of a *science of health*; but on this point I think few will have any doubt who bear in mind that the word *science* simply means *knowledge*, and surely it cannot be incorrect to speak of the knowledge of health!—that is to say, knowledge of the conditions which affect the attainment, preservation, and restoration of health.

Let us settle, however, what is strictly meant by "health." Originally the word was synonymous with "whole," and as applied to the body signified that it was entire, without defect, "sound" or in tune, performing its normal functions in a free and unconstrained manner.

When we speak of the normal functions of the body we imply the several activities of its different organs. These, however,

^a Part of an Introductory Address delivered at the opening of the Second Annual Course of Lectures on Hygiene in the Training Department of the Alexandra College, January 15, 1908.

are in many respects dissimilar, and it is possible that the conditions most favourable for normal action in one organ may not be those requisite for it in another.

But underlying the activities of all living matter there is a like material, a similar structural basis, which constitutes what we may call the machinery of life. In this *materies* the manifestations of life are associated with physical and chemical changes of the same order as those which take place elsewhere. For example, the machine is a most efficient and delicate energy transformer. Nor is its energy derived from itself; it is drawn from the common stock of the world's energy just as much as is the energy of the steam engine. The chief difference is one of detail. The food supplied to the animal body is a more refined and specialised fuel than the anthracite supplied to the engine of human construction.

Looked at in this light it is no stretch of the imagination to say that the science of health is, strictly speaking, a physical science, and takes rank with others in the same category. Science, as a matter of fact, is one and indivisible, although it may be convenient to map it out into certain territories. The same object runs through every branch—namely, an endeavour to ascertain the rational order of cause and effect in all natural matters, one of the postulates of science being that nothing happens without a cause.

That this is true of biological occurrences there can be no doubt, though with our present imperfect means of investigation it may not always be possible to trace events very far towards their sources. It follows, therefore, that every conscious act performed by us, every breath breathed, every heart's beat, every sound heard or sight seen, is to be looked upon as determined by antecedent physical occurrences which are legitimate objects of investigation.

But what perhaps is more to our immediate interest is that the quality of such performances is eminently dependent upon external conditions playing upon the organism—conditions largely within our own control. It thus comes that what we are accustomed to call the blessing of good health, as well as its converse, are but natural results of antecedent causes.

In a generation to come it will seem strange that it took so long to recognise this and act upon it by taking adequate measures to ensure good health, and by adopting appropriate

remedies to correct departures from it. Even now one may not unnaturally ask why is it that the subject of health has not by general assent been given a more prominent place in the education curriculum of the school and the university. One reason, I think, undoubtedly is the prevalence in the past of a belief, now happily passing away, that the phenomena of life belong to a different category from other natural events, that they do not follow in that definite order which characterises the succession of other occurrences in nature, and that disease and suffering are forms of chastisement sent for our ultimate good which it would be impious to seek to avert.

Another reason is shown in the history of all sciences—namely, the fact that they must attain a considerable stage of development before they yield practical fruits. Nor is this a matter of wonder. Discovery and progress in science are only made by investigators who seek truth for its own sake, and who (for the most part unintentionally) light upon results of practical value. “But even,” as Huxley has eloquently said, “while the cries of jubilation of the craftsmen resound, and this flotsam and jetsam of the tide of investigation is being turned into the wages of workmen and the wealth of capitalists, the crest of the wave of scientific investigation is far away on its course over the illimitable ocean of the unknown.” The discoverer leaves it to others—and this requires time—to apply and reap the practical benefits of his discovery.

To yield fruits in this sense a science must become part of the early life of a more or less considerable number of the people. The child taught in the school of to-day must grow up and take his or her place in the world as the parent of the next generation, and that next generation must receive the same or an improved form of this teaching before its effect becomes an influence in the daily life of any considerable section of the community. Nor is it sufficiently recognised that school education to be effective must be supplemented by home influences. The school period is perhaps too much regarded in the light of a compartment of life all to itself. Nothing could be more unfortunate, and great opportunities are afforded in teaching the science of health of correcting this view, of correlating school life with home life, and of fitting the scholar for a more intelligent discharge of the duties of citizenship in subsequent years.

Still another reason to account for the slow recognition of

the science of health as a subject proper to include in the school curriculum is—that our systems of education are pre-eminently conservative, new ideas conflict with old-established customs, time elapses before the new receive adequate consideration, change comes but slowly, nevertheless it comes. There is at no time complete standstill, although progress may now and then be hardly perceptible. Soon, however, comes a wave of accelerated movement which is not always attended by unmixed good, inasmuch as the change it brings about may amount almost to an upheaval.

It would seem that we in this country have just now reached one of those phases of active readjustment in the matter of the teaching of hygiene in schools.

Even yet, however, the advantages of its introduction are not universally admitted. The close interdependence of mental and bodily conditions are only half conscious beliefs of the community as a whole, and yet nothing is more certain than that the quality of mental activity is largely determined by the state of the bodily health. Nor is it sufficiently recognised that the attainment of health, both mental and bodily, is a matter practically within one's own control, granted the knowledge of how to secure it. If these two facts alone were thoroughly realised by everybody so as to become fixed convictions, half the difficulty of education in matters of health would be overcome, because half of it arises from apathy which in turn results from lack of real conviction. To quote again from Huxley, there is a "want of heartiness of belief in the value of knowledge respecting the laws of health and disease, a want of foresight and care to which knowledge is the essential preliminary."

This is all the more remarkable because the economic advantages of good health are so obvious. They are seen in increased efficiency, greater productive power, a longer working life; fewer days in the year of absence from work through illness, lessened severity of illnesses, a lower rate of mortality, and lower taxation for the maintenance of the sick, the disabled, and the orphan.

It is gratifying from every point of view, and worthy of all praise, that your Alexandra College has, of its own initiative, taken a prominent position in the front of the movement to place the subject of hygiene upon its proper basis in the course of school education. Moreover, this step was taken a year ago.

prior to the wave of interest in hygienic matters which has since been started in our City, and already a Session's work stands to the credit of the College. Further, I think you will all agree that the beginning was made in the right way—by giving primary attention to the instruction of teachers in training. The chief problem at the outset of any such educational movement is how to supply trained teachers to undertake the work. Until that difficulty is overcome real progress is impossible.

An ideal method for introducing the science of hygiene into the school programme has yet to be devised and applied. For the present one can only act upon certain broad principles. One of these is—that as in the evolution of the science so in its inculcation, attention must primarily be directed to the properties of the medium in which man is fitted to dwell so as to find out how far changes therein may affect the normal execution of his body functions. To this end a knowledge of physics and chemistry is essential. Nothing is more instructive in the history of man's endeavours to arrive at any understanding of the essential processes of life than the lack of progress which continued till knowledge in the first instance of the composition of the atmosphere was forthcoming.

For fully a century and a half, beginning soon after the revival of learning and lasting till the end of the seventeenth century, an enormous amount of skilled effort—the best that then existed—was directed to a solution of problems connected with the functions of the body. But the practical result was almost negligible. Nor was it till after the lapse of still another century that rational views upon such matters began to dawn. In the meantime chemistry had become an independent science, and had turned to the pursuit of its own aims without other motive than the acquisition of knowledge for its own sake.

The closing years of the nineteenth century were marked by the brilliant discovery of certain new and rare constituents of the atmospheric air, chief amongst them being *argon*. The preceding century had pretty well reached its last quarter before Priestly, a theologian and chemist, had discovered the existence of its most essential and vital constituent—oxygen.

It is difficult to realise how backward such important knowledge was despite the eminence in other respects to which civilisation had attained at this period of history. We in Dublin can, perhaps, best appreciate this discrepancy when we re-

member that in those same decades of the eighteenth century social life in our city had already reached its zenith. Dublin was then the second city in the Empire; the Viceroy's Court exceeded in brilliance that of the monarch, King George III. More than one hundred and twenty peers resided within the precincts of the city. The elaborate cornice mouldings seen in the spacious rooms and halls of many of the fine old Dublin houses, the ceilings and door panels adorned with medallions by artists such as Valdré and Angelica Kauffman, the exquisite old Italian marble mantelpieces—all belong to this period.

Another important principle is that the teaching should be based upon experimental observation. Knowledge should be acquired by inferences deduced from experiments actually performed by the students.

It cannot be too prominently borne in mind that *instruction* is not *education*, nor can the former equip a teacher in a way that will enable him or her to secure the sympathetic attention and lively interest of the pupils.

Beyond these fundamental principles everything else is matter of detail—no doubt detail that makes all the difference between success and want of it. It is here that scope for originality comes in, and already some admirable programmes have been devised and adopted. In one^a, which I have in mind, the inculcation of simple hygienic observances is begun early and woven into the daily interests and events of the pupil's life. Advantage is taken at the outset of the child's delight in the due observance of all that belongs to the proper care of its dolls and its toy animals. Then use is made of the growth of plants to study and impart practical knowledge of the conditions necessary for healthy existence. Finally, a course of physiology and hygiene, carried out experimentally, is gone through. In this latter the chief functions of the human body, the conditions requisite for their healthy performance, and the means of procuring those conditions for the individual and the community, are duly considered. Of schemes of larger compass nothing could well be more complete than that drawn up by Miss Alice Ravenhill for the West Riding County Council, followed up as it has been by her book on Practical Hygiene (Arnold & Sons, Leeds).

^a *The Science of Home Life*.—A syllabus of work suitable for girls in secondary schools. By E. Sidney Semmens, B.Sc. Issued by the Kent County Education Committee.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.

General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF PATHOLOGY.

President—A. R. PARSONS, M.D.

Sectional Secretary—PROFESSOR WHITE, R.C.S.

Friday, January 10, 1908.

THE PRESIDENT in the Chair.

Septic Endocarditis.

DR. BEWLEY said the case was one of a young man born in 1885. In 1898 he had suffered from rheumatic fever, being laid up for six months, and his heart being, he believed, then affected. During the following three years he had further attacks. He came into hospital in February, 1905, suffering from breathlessness and palpitation. He was found to have a hypertrophied heart, double aortic disease, and mitral regurgitation. During the time the patient was under his care he never suffered from fever, the main clinical feature was the regurgitation. About the middle of October last he came to see him (Dr. Bewley) looking very ill, his heart beating 130 to 140 per minute. He was admitted to hospital on October 19, and died on December 16. His last illness had begun in the previous June with feverishness, occasional sweatings, and loss of strength. While in hospital his evening temperature ran to 101° and 102°, and his morning temperature varied from normal to 100°. The condition of the heart was much the same as before, and sometimes a presystolic thrill was felt. He had also a slight hemiplegic seizure, from which he recovered in a few days. The diagnosis was septic endocarditis. About the middle of November a tender spot came on one side of his head. For four or five days it was swollen, and gradually subsided. The temporal artery might be felt as far as the spot, but could not be traced beyond it. No abscess occurred, showing that the infection was very mild. The same symptoms occurred on the other side at the same spot. At the *post-mortem* the heart

was found very much enlarged, and the pericardium was found to be universally adherent—a condition of which there was no clinical sign whatever. The right cavities of the heart were comparatively small, the left ventricle was enormous, and both the mitral and aortic valves were festooned with soft pink vegetations. The kidneys were enlarged; the spleen was very much enlarged, and there was an abscess in connection with an *infarct* in the spleen. Dr. Harvey made an examination of one of the vegetations, which showed enormous numbers of cocci of the streptococcus type. The case, then, was one of endocarditis, with an organism of extremely mild virulence; the sepsis had lasted fully six months.

THE SECRETARY said that, considering no cultures had been made, it was difficult to tell from the section alone whether they were dealing with streptococci. He believed they were not streptococci, but were rather diplococci of the pneumococcus type.

THE PRESIDENT asked Dr. Bewley if he thought the final attack was a separate and distinct infection, or did he consider that the patient was carrying the organisms in his system all the time, and simply found a suitable opportunity to develop.

DR. BEWLEY, in reply, said it seemed to him that the final infection was a distinct and new one, but, of course, he could not prove it to be so.

DR. HARVEY mentioned that he looked on the cocci as streptococci.

Intra-thoracic Tumour.

DR. TRAVERS SMITH gave the main clinical facts of the case, of which Dr. Earl would show *post-mortem* specimens. The patient, a man, aged fifty-six, was admitted to hospital on April 23, 1907, and died in about six weeks. A few months before admission he received a heavy blow on his chest, but one could not say how much that had to do with the growth in his thorax and its extreme distribution. About two months before admission he noticed a swelling, which extended into his right arm and right side of his chest. About four weeks previously he noticed the veins of his chest getting prominent, and his right ear getting rather blue. On examination, he found his right arm and neck, especially on the right side, œdematous, but not pitting on pressure. The enlargement of the veins of the chest on the right side did not extend below the thoracic margin. They came to the conclusion that there was something obstructing the blood return through

the right innominate vein, and, perhaps to a less degree, through the left, and that the obstruction was due to pressure from an intra-thoracic tumour. In about a week the same symptoms appeared on his left side. An effusion in the patient's right pleural sac accumulated rapidly, and on tapping it they found it had the character of a passive effusion, with poverty of albumen and cellular elements. He had to be tapped several times. Cyanosis was now very remarkable, and he began to breathe with a slight stridor. About a week before his death he became very œdematous in his lower extremities, and some fluid formed in the peritoneum. Examination of his heart and pulse prevented attributing the condition to general cardiac weakness. One day the patient complained of violent pain in his right axilla, and they concluded that a vein had burst. He was given a small hypodermic of morphin to relieve the pain, and died six or seven hours afterwards from respiratory embarrassment.

DR. EARL, in exhibiting the *post-mortem* specimen, said the tumour involved all the structures in the thorax. The whole of the superior vena cava was absolutely filled with it, and it grew high up and into the innominate vein. It projected into the right auricle of the heart, and filled it up, and projected into the ventricle. There were no growths elsewhere, and the tumour had the structure of a lympho-sarcoma.

Intra-thoracic Lympho-sarcoma.

DR. EARL exhibited a second specimen of extensive lympho-sarcoma in the upper parts of the thorax, but lying more in front of the structures than surrounding them. It grew down on to the pericardium, and the heart was covered all over with a thick layer of tumour. It extended to the left pleura, and from it into the lung. There were also several globular secondary growths in the liver of the same structure.

Aortic Aneurysm.

DR. BOXWELL exhibited a specimen taken from a male, aged thirty-three years. He was admitted to the Meath Hospital on October 11, 1907, with a provisional diagnosis of "paroxysmal asthma," with, possibly, "pneumonia."

When seen the patient was sitting up in bed. The face was livid, his head drooped between his shoulders, suffering from violent dyspnoea, and streaming with perspiration. The larynx

was evidently obstructed above, and the loud stridor at the root of the neck pointed also to obstruction in this region. The pupils were regular. There was no œdema of the upper extremity, and the pulses, though extremely feeble, showed no perceptible difference. There was, however, a patch of dulness under the right sterno-clavicular articulation, and a heaving pulsation palpable just above this point at the root of the neck.

Diagnosis : Innominate aneurysm. The relief given by morphin and amyl-nitrite was short-lived, and the patient died on the morning of October 13, 1907. At the *post-mortem* examination the aorta was found to be the seat of a saccular aneurysm, the size of a duck egg. The innominate artery was involved in the aneurysm, while the left carotid and subclavian opened directly into the sac. The aneurysm lay directly under the right sterno-clavicular articulation, and caused a partial dislocation of the joint. The sac was crossed in front by the left innominate vein, which was incorporated in its wall, and nearly obliterated, its function having been taken on by an enlarged left superior intercostal. Both recurrent nerves must have been subjected to considerable pressure, as were also the trachea and œsophagus.

Aneurysms of Aorta.

DR. EARL showed (1) an aneurysm of the aorta. It was situated about the junction of the descending part of the arch with the thoracic aorta, and was about one and a half inches in diameter. It projected to the left side, and was adherent to the periosteum of the vertebræ and to the œsophagus, which it had flattened out somewhat. It also pressed on the left side of the trachea, and slightly flattened it. Its opening into the aorta was about $\frac{3}{8}$ inch in diameter. The aneurysm was almost filled by a firm clot. It was taken from the body of a man aged forty years, who died of tuberculosis of the lungs. He had had syphilis sixteen years before his death. The aorta was atheromatous, but not dilated. (2) An aneurysm in same position with a wide opening into the aorta. The aorta was considerably dilated and atheromatous.

The wall of the aneurysm was adherent to the periosteum of the vertebræ and to the œsophagus. The part adherent to the œsophagus was deeply ulcerated, so that one ulcer had gone right through the wall, and had affected the muscular coat of the œsophagus.

Blood Slides showing marked Eosinophilia.

DR. EARL said the blood was from a gentleman returned from somewhere on the west coast of Africa. There was a strong suspicion that he had malarial disease. He was struck with the number of coarse granular cells in the blood. He selected a thick part of the film in order to get a good many leucocytes, and in the field there were three eosinophile cells and some of polynuclear and neutrophile cells. The condition was not very uncommon, but was more particularly noticed in cases of worms of different sorts, though it occurred in other conditions.

DR. MOORHEAD said he had a case of simple endocarditis with rheumatic endocarditis, and every attack of rheumatism was accompanied by eosinophilia. He thought at first that there was some intestinal infection, but had not been able to detect any.

THE PRESIDENT recalled a communication which he had made to the Medical Section of the Academy on two cases of enormous enlargement of the spleen, accompanied by marked eosinophilia.

DR. EARL replied.

Two Cases of Poisoning by Crude Phenol.

DR. BOXWELL showed two specimens Case I.—Stomach and spleen of a girl aged fifteen years, who was poisoned by drinking four ounces of crude carbolic. She was dead when brought to hospital, and the *post-mortem* was made about twenty-four hours after, no attempt having been made to counteract the poison. *Naked eye Appearance.*—Stomach of leathery consistence: serous surface dull, and of a bright cherry-red colour. The same appearances were noticeable on the contiguous surface of the spleen. The mucosa of the stomach and œsophagus was hard and brittle, dull greyish-white in colour, with whiter points, resembling incrustations, as if roughly painted with white lead. There was no evidence of this necrosis on the tongue or fauces, although in the latter an œdematous condition of the mucous membrane was very remarkable.

CASE II.—Viscera, including tongue, pharynx and œsophagus, of a child, aged twelve months, poisoned with crude phenol. In this case the amount of acid swallowed could not be accurately ascertained. The child was made to take a good drink of it, but was still alive when removed to hospital. The points emphasised here were:—(1) That about four ounces of whisky were adminis-

tered within a few minutes of the dose of acid, followed by a copious irrigation with whisky and water. There was no other antidote used. And (2), whereas enough had been already absorbed to produce a fatal depression of the heart's action, the amount of coagulation necrosis was not great, the stomach bearing a marked contrast to that of the previous case. The condition of the pharynx and œsophagus in the two cases was much the same.

Some details of a third case were also given, where a woman, aged twenty-seven, had swallowed eight ounces of the crude acid. She also was treated with whisky, whisky and water, and glycerine and water given through a stomach tube. A considerable quantity of brown fluid smelling strongly of carbolic acid was siphoned off with the initial dose of whisky, and, as a result of the treatment, the woman is doing well. It is a remarkable fact that within a few minutes of the administration of whisky she recovered consciousness, and within an hour was vomiting naturally.

Round Worm in Larynx and Trachea.

THE SECRETARY exhibited an old museum specimen with a round worm doubled up in the trachea and larynx of a child.

SECTION OF MEDICINE.

President—J. M. REDMOND, M.D., P.R.C.P.I.

Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

Friday, January 31, 1908.

THE PRESIDENT in the Chair.

Prognosis and Treatment of Nephritis.

THE PRESIDENT OF THE ACADEMY opened a discussion on the above subject. [His communication will be found at page 161].

Pathology of Nephritis.

DR. EARL read a paper on the above subject. He confined his attention principally to three main points—(1) The ætiology of nephritis, (2) the classification of the varieties, (3) the changes in the cardio-vascular system. [His paper is published at page 178].

DR. TRAVERS SMITH said it was a good thing to bear in mind

that, taking a comprehensive view of the subject, nephritis was not altogether a destructive process. Nature did not stand by and allow the body to fall a victim to the disease without making a fight against it. She had two lines of defence. The first was high arterial tension and hypertrophy of the left ventricle, by which the kidneys had a greater supply of blood sent to them and more rapidly passed through them, this making up for some of the deficiency in the action of the kidney. The second line of defence was œdema, which, however they might regard it, took out of circulation certain toxic substances. Looking upon œdema—as well as upon high arterial tension—as conservative processes, he thought there were certain cases of extremely severe uræmic symptoms where it was a good thing to induce œdema. He had been struck on several occasions with patients who died of severe uræmic symptoms without ever having been in the least œdematous, and he had thought that, if œdema be a conservative process, they might have been saved if they could have been made œdematous. He had given a man, who had been for some time in uræmic convulsions and coma, sodium chloride, with the result that at the end of twenty-four hours he became markedly œdematous and made a good recovery from all his symptoms. He thought, therefore, that these two conservative processes should not be treated directly unless they were doing harm *per se*, and they should watch for cases in which the production of œdema might do good.

SIR JOHN MOORE said he concurred with the view put forward by Dr. Travers Smith as to the beneficial influence of œdema in cases of chronic renal disease, with regard to which he had read a paper before the British Medical Association at the Oxford meeting. The general view in regard to the pathology of nephritis was that increased arterial tension was the cause of the hypertrophy of the left ventricle of the heart, but recently the view had been put forward that the high arterial tension was the result of the forcible action of the heart caused by the circulation in the blood of an increased amount of nitrogenous compounds, such as urea and its allies. He could not go with Dr. Finny in dissenting from the view that water should be given freely in some forms of nephritis. He looked upon water as a valuable eliminant in cases of nephritis; it acted on the bowels and on the skin, and it was very desirable to keep the skin active in all forms of toxæmia, but the water should be soft

water. They should not be too strict in dieting chronic nephritics ; milk was sometimes very distasteful to them, and was not easily digested, and sometimes they died of starvation if kept off an animal diet. It was, moreover, just as necessary to treat nephritis in fresh air as tuberculosis.

DR. LITTLE also spoke.

DR. FINNY, in reply, said he did not take the view that œdema should be looked upon as a conservative process, when the materials which were stored up in the fluids in the cavities of the body were a constant danger of infection. It was well known that the presence of a great deal of dropsy might be compatible with good health, but it would hardly be looked upon as a conservative process saving the patients from some other danger. The subject, however, was open for consideration. High arterial tension was a compensating force, but at all times was a matter of great danger ; at any moment there was the risk of rupture, and the treatment should really be to lower the tension.

DR. EARL also replied.

MESSAGE OF THE PHARYNX.

DR. LANGMAID brought to the annual meeting of the American Laryngological Association, held in 1907, for exhibition an instrument used for massage of the pharynx by a famous actor, who attributed his great vocal power to the constant use of this instrument. In appearance it is a handle with a rounded, and at the same time curved, end, such as one might imagine could fit against the posterior wall of the pharynx and enable the person to hold it outside the mouth and move it about inside. One might have thought, as Dr. Langmaid said, that this would have been a real invention and that nobody would have thought of it before ; but it is stated that a certain Admiral Henry, of the British Navy, who wrote a century ago, recommended instrumental massage of the mouth and throat. “ Such is the difficulty of establishing a claim for *priority* ! ”

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, January 25, 1908.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending January 25, 1908, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 26.2 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,131,959. The deaths registered in each of the four weeks ended Saturday, January 25, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality:—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	Jan. 1	Jan. 11	Jan. 18	Jan. 25			Jan. 1	Jan. 11	Jan. 18	Jan. 25	
22 Town Districts	25.1	25.0	26.8	26.2	25.8	Lisburn -	22.7	45.5	18.2	—	21.6
Armagh -	—	20.6	20.6	13.7	13.7	Londonderry	18.2	19.5	13.4	30.4	20.4
Ballymena	23.9	9.6	9.6	14.4	14.4	Lurgan -	44.3	8.9	44.3	17.7	28.8
Belfast -	28.0	28.0	28.4	25.1	27.4	Newry -	16.8	12.6	20.4	25.2	21.0
Clonmel -	10.3	5.1	15.4	20.5	12.8	Newtownards	11.4	40.1	11.4	5.7	17.2
Cork -	24.7	19.2	20.5	30.1	23.6	Portadown	36.2	10.3	20.7	5.2	18.1
Drogheda -	24.5	28.6	4.1	8.2	16.4	Queenstown	26.4	26.4	33.0	19.8	26.4
Dublin - (Reg. Area)	25.5	26.0	31.2	29.5	28.0	Sligo -	28.8	38.4	19.2	48.0	33.6
Dundalk -	12.0	16.0	23.9	39.9	23.0	Tralee -	10.6	31.7	31.7	10.6	21.2
Galway -	27.2	11.7	7.8	27.2	18.5	Waterford	21.4	27.3	19.5	23.4	22.9
Kilkenny -	9.8	19.7	—	34.3	16.0	Wexford -	32.7	4.7	9.3	9.3	14.0
Limerick -	17.8	23.2	36.9	24.6	25.6						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, January 25, 1908, were equal to an annual rate of 2.1 per 1,000, the rates varying from 0.0 in thirteen of the districts to 6.6 in Queenstown, the 3 deaths from all causes registered in that district including one from enteric fever. Among the 183 deaths from all causes registered in Belfast are 18 from measles, 5 from whooping-cough, 3 from enteric fever, one from diarrhoea, 3 deaths from cerebro-spinal fever, and one returned as from *cerebro-spinal meningitis*. Included in the 25 deaths from all causes in Londonderry are 2 from whooping-cough and one from diarrhoea. Among the 18 deaths from all causes registered in Limerick are 2 from measles. One of the 12 deaths from all causes registered in Waterford is from *pyrexia* (origin uncertain). Of the 2 deaths registered in Drogheda one is from typhus. One death from whooping-cough is amongst the 10 deaths from all causes registered in Sligo, and one death from measles is included in the 4 deaths from all causes registered in Clonmel.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 394,525, that of the City being 303,874, Rathmines 36,087, Pembroke 28,183, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, January 25, 1908, amounted to 212—110 boys and 102 girls; and the deaths to 229—102 males and 127 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 30.3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the Area, the rate was 29.5 per 1,000. During the four weeks ending with Saturday, January 25, 1908, the death-rate averaged 29.0, and was 0.6 above the mean rate for the corresponding portions of the ten years, 1898–1907.

Among the 229 deaths registered in the week are one death from measles, 5 deaths from whooping-cough, 2 from enteric

fever, and one death from *diarrhœa*. The death from measles above referred to was the only death from that disease registered since the week ended December 14. In the three preceding weeks, deaths from whooping-cough were 6, 1, and 0; deaths from enteric fever were 0, 0, and 3; and deaths from diarrhœal diseases were 3, 2, and 0, respectively. The deaths from influenza, which numbered 1, 2, and 8 in each of the three preceding weeks, rose to 12.

Lobar pneumonia caused one death, broncho-pneumonia 7 deaths, and *pneumonia* (not defined) 11 deaths.

The number of deaths from all forms of tuberculous disease was 40, including 21 deaths from tubercular phthisis, 11 returned as from *phthisis*, one death each from tubercular peritonitis and *tabes mesenterica*, and 6 deaths from other forms of the disease. In the 3 preceding weeks, deaths from all forms of tuberculous disease numbered 28, 40, and 38 respectively.

Four deaths were caused by carcinoma and 8 by cancer (undefined).

The deaths of 4 infants were ascribed to prematurity.

Diseases of the brain and nervous system caused 13 deaths, including 4 (all of infants under one year of age) from *convulsions*.

To diseases of the heart and blood vessels 29 deaths were attributed, and to bronchitis 52 deaths.

Two deaths were ascribed to accident or negligence, one being the result of a railway accident.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 infants under one year of age and the death of one person aged 73 years.

Fifty-four of the persons whose deaths were registered during the week were under 5 years of age (30 being infants under one year, of whom 8 were under one month old), and 74 were aged 60 years and upwards, including 35 persons aged 70 and upwards, of whom 10 were octogenarians, and 5 (one male and 4 females) were stated to have been aged 92, 90, 90, 91, and 93 years, respectively.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended January 25, 1908, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Eryxenia of uncertain origin	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Total
City of Dublin	Jan. 4	-	*	*	3	1	-	2	-	1	1	5	-	o	*	*	13
	Jan. 11	-	o	*	4	-	-	3	-	3	3	7	-	o	*	*	25
	Jan. 18	-	o	*	1	-	-	5	-	5	4	13	1	o	*	*	29
	Jan. 25	-	*	o	7	2	-	3	-	3	6	15	1	o	*	*	37
Rathmines and Rathgar Urban District	Jan. 4	-	*	o	2	-	-	-	-	-	-	2	-	*	o	*	4
	Jan. 11	-	*	o	1	-	-	1	-	-	-	-	-	*	*	*	1
	Jan. 18	-	*	o	1	-	-	-	-	-	1	-	-	*	*	*	2
	Jan. 25	-	o	o	2	-	-	1	-	1	2	1	-	*	*	*	7
Pembroke Urban District	Jan. 4	-	3	2	1	-	-	-	-	-	-	-	-	*	5	-	11
	Jan. 11	-	-	-	1	-	-	1	-	-	-	-	-	*	2	-	4
	Jan. 18	-	1	-	3	-	-	-	-	-	-	1	-	*	1	-	6
	Jan. 25	-	1	2	4	-	-	-	-	-	-	-	-	*	2	-	9
Blackrock Urban District	Jan. 4	-	*	*	-	-	-	-	-	-	-	-	-	o	o	-	-
	Jan. 11	-	*	*	-	-	-	-	-	-	-	-	-	o	o	-	-
	Jan. 18	-	o	*	-	-	-	-	-	-	-	-	-	o	o	-	-
	Jan. 25	-	o	*	-	-	-	-	-	-	-	-	-	o	o	-	-
Kingstown Urban District	Jan. 4	-	o	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Jan. 11	-	o	*	-	-	-	-	-	-	-	-	-	o	*	*	-
	Jan. 18	-	o	*	-	-	-	-	-	-	-	-	-	o	*	*	-
	Jan. 25	-	o	*	-	-	-	-	-	-	-	-	-	o	*	o	-
City of Belfast	Jan. 4	-	*	*	5	1	-	7	-	4	1	5	-	o	*	3a	26
	Jan. 11	-	o	o	11	-	-	8	-	3	5	9	2	o	*	-	38
	Jan. 18	-	*	*	5	-	-	4	1	4	4	4	-	o	*	-	22
	Jan. 25	-	*	*	12	-	-	5	1	6	-	7	-	o	*	-	31b

(a) Notified on December 30th and 31st, 1907.

(b) Not including 10 cases of cerebro-spinal fever reported. The Registrar of Belfast Urban No. 14 District reports:—"A death was registered during last week in Castle-reagh No. 2 as having occurred from cerebro-spinal fever."

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

Three cases of measles were admitted into hospital during the week ended January 25, 1908, 5 were discharged, and 10 cases remained under treatment at its close.

Nine cases of scarlet fever were admitted to hospital, 16 were discharged, and 48 cases remained under treatment at the close of the week. This number is exclusive of 14 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

Two cases of typhus were admitted to hospital during the week, and 3 cases remained under treatment at its close.

Three cases of diphtheria were admitted to hospital, 6 were discharged, and 32 patients remained under treatment at the close of the week.

Four cases of enteric fever were admitted to hospital, 6 were discharged, and 34 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 12 cases of pneumonia were admitted to hospital, 8 were discharged, there were 2 deaths, and 28 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, January 25, 1908, in 76 large English towns, including London (in which the rate was 18.0), was equal to an average annual death-rate of 18.5 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 22.2 per 1,000, the rate for Glasgow being 25.4 and for Edinburgh 17.7.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended January 25. From this Report it appears that of a total of 78 cases notified 50 were of scarlet fever, 12 of erysipelas, 4 of diphtheria, 2 of cerebro-spinal fever, 2 of small-pox, and 2 of enteric fever.

Among the 344 cases of infectious diseases in hospital at the close of the week were 199 cases of scarlet fever, 28 of measles, 23 of diphtheria, 14 of whooping-cough, 11 of erysipelas, 7 of enteric fever, 6 of small-pox, and 5 of cerebro-spinal fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin. Lat. 53° 20' N., Long. 6° 15' W., for the Month of January, 1908.

Mean Height of Barometer, - - -	30.087 inches.
Maximal Height of Barometer (20th, 9 a.m.). -	30.500 ..
Minimal Height of Barometer (7th, 9 p.m.). -	29.246 ..
Mean Dry-bulb Temperature - - -	40.8°.
Mean Wet-bulb Temperature, - - -	38.9°.
Mean Dew-point Temperature, - - -	36.2°.
Mean Elastic Force (Tension) of Aqueous Vapour	.221 inch.
Mean Humidity, - - -	84.1 per cent.
Highest Temperature in Shade (on 16th), -	55.9°.
Lowest Temperature in Shade (on 5th), -	22.8°.
Lowest Temperature on Grass (Radiation) (5th).	18.9°.
Mean Amount of Cloud, - - -	51.3 per cent.
Rainfall (on 16 days), - - -	2.055 inches.
Greatest Daily Rainfall (on 6th), - - -	.713 inch.
General Directions of Wind, - - -	SW., S., W.

Remarks.

The year 1908 opened with a spell of severely cold weather, determined by an anticyclonic band which spread westward across Scotland from the Baltic and Denmark. On the night of the 5th a depression passed north-eastwards along the west coasts of Ireland and Scotland, causing SW. winds and an extraordinary and rapid rise of temperature. Cold weather soon returned, but the third week was unsettled, and often rainy, in Ireland and Scotland. In the week ended Saturday the 25th, cold weather held in England, and to a less extent in the eastern parts of Ireland and Scotland. The last few days were changeable, showery and windy. The weather was very cold during the first five days. On the evening of the 5th temperature rose briskly—a range of 30.6° occurring between Sunday and Monday, the 5th and 6th. This warm wave was transitory, but a second open spell set in on the 13th, lasting to the 17th, and this was followed by another warm wave from the 22nd to the 27th, inclusive.

In Dublin the arithmetical mean temperature (41.5°) was below the average (41.7°) by 0.2 degree; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 40.8°. In the forty-three

years ending with 1908, January was coldest in 1881 (M. T. = 33.2°), and warmest in 1898 (M. T. = 47.8°). In 1907 the M. T. was 42.7° .

The mean height of the barometer was 30.087 inches, or 0.213 inch above the corrected average value for January—namely, 29.874 inches. The mercury rose to 30.500 inches at 9 a.m. of the 20th, having fallen to 29.246 inches at 9 p.m. of the 7th. The observed range of atmospheric pressure was, therefore, 1.254 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 40.8° , or 0.9° below the value for January, 1907. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* $\times .52$), the M. T. becomes 41.7° , compared with a thirty-five years' (1871–1905) average of 41.9° . The arithmetical mean of the maximal and minimal readings was 41.5° , compared with a thirty-five years' average of 41.7° . On the 16th the thermometer in the screen rose to 55.9° —wind, SW.; on the 5th the temperature fell to 22.8° —wind, calm. The minimum on the grass was 18.9° , also on the 5th.

The rainfall was 2.055 inches, distributed over 16 days. Of this amount .713 inch fell on the 6th. The average rainfall for January in the thirty-five years, 1871–1905, inclusive, was 2.21 inches, and the average number of rainy days was 18. The rainfall, therefore, and rainy days were somewhat below the average. The record rainfall for January was in 1895—namely, 5.711 inches on 24 days. In 1876, only .406 inch was measured on but 9 days. In 1907, only .428 inch. fell on but 9 days.

The atmosphere was foggy on the 4th, 5th, 6th, 18th, 20th, 21st and 23rd. High winds were noted on 16 days, reaching the force of a gale on 4 days—the 5th, 16th, 26th and 28th. Snow or sleet fell on the 8th and 28th; hail on the 9th. Solar halos were seen on the 15th and 19th, lunar halos on the 10th, 16th, and 18th, and lunar coronas on the 12th, 16th and 17th. Temperature reached or exceeded 50° in the screen on 9 days; while it fell to 32° in the screen on 8 nights, compared with 4 nights in 1907, 2 nights in 1906 and 1905, 3 in 1904, 7 in 1903 and 1902, 3 in 1901, but 18 in 1895. The minima on the grass were 32° or less on 15 nights, compared with 16 nights in 1907, 11 in 1906, 9 in 1905, 11 in 1904, 9 in 1903, 12 in 1902, 11 in 1901, and 29 in 1895. On the 4th the maximal temperature in the screen was 35.2° .

In Dublin the rainfall up to January 31st, 1908, amounted to 2.055 inches on 16 days, compared with only .428 inch on but 9 days in 1907, 4.127 inches on 22 days in 1906, 1.897 inches on 14 days in 1905, 2.535 inches on 19 days in 1904, 3.269 inches on 20 days in 1903, 1.614 inches on 12 days in 1902, 2.672 inches on 17 days in 1901, only .406 inch on 9 days in 1876 ; and with a thirty-five years' average (1871-1905) of 2.21 inches on 18 days.

Mr. J. E. W. Flood reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 30.087 inches, the range of atmospheric pressure being from 29.249 inches at 9 p.m. of the 7th to 30.495 inches at 9 a.m. of the 20th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 41.4°. The arithmetical mean of the daily maximal and minimal temperatures was 42.3°. The screened thermometers rose to 56.3° on the 16th, and fell to 20.5° on the 5th. On the 5th also the grass minimum was 12.8°. On the 27th the black bulb *in vacuo* rose to 74.9°. Rain fell on 14 days to the amount of 1.876 inches, the greatest fall in 24 hours being .653 inch on the 6th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 33.7 hours, of which 4.4 hours occurred on the 12th. The mean daily sunshine was 1.1 hours. The mean temperature of the soil at 9 a.m. at a depth of one foot was 39.5° ; at a depth of 4 feet it was 43.0°.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 18 days to the amount of 2.320 inches, the greatest measurement in 24 hours being .730 inch on the 6th. On that day the highest shade temperature of the month, 53.1°, was recorded, whereas the previous day had been the coldest, the thermometer having fallen to 18.0° in the screen, and on the 4th to 13.2° on the grass. The total duration of bright sunshine was 62.6 hours, the largest amount recorded on one day being 7 hours on the 20th.

Mr. R. Cathcart Dobbs, J.P., reports a rainfall of 1.960 inches on 13 days at Knockdolian, Greystones, Co. Wicklow, the largest measurement in 24 hours being .655 inch on the 22nd. On the 6th, .535 inch was recorded.

Dr. Arthur G. Price, writing from Clonsilla on the Burnaby Estate, Greystones, Co. Wicklow, reports that the rainfall at that place was 1.63 inches on 15 days, compared with only .550

inch on 9 days in 1907. The greatest fall in 24 hours was .49 inch on the 6th. The mean temperature of the month was 40.7°. The thermometer rose to 53° on the 27th, having fallen to 24° on the 4th. Frost occurred on 9 days.

Miss Muriel E. O'Sullivan returns the rainfall at White Cross, Stillorgan, Co. Dublin, at 2.060 inches on 19 days, .790 inch being measured on the 6th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 1.495 inches on 14 days, compared with only .362 inch on but 6 in January, 1907. The greatest fall in 24 hours was .465 inch on the 6th. The mean shade temperature was 38.4°, the extremes being—highest, 53° on the 27th; lowest, 18° on the 4th.

Dr. Arthur S. Goff reports that the rainfall at Lynton, Dundrum, Co. Dublin, was 2.29 inches on 19 days, the greatest daily measurement being .87 inch on the 6th. The thermometer in the shade ranged from 55° on the 16th to 22° on the 5th. The mean shade temperature was 41.4°. There was a snow shower on the 8th.

Dr. Christopher Joynt, F.R.C.P.I., recorded 2.131 inches of rain on 17 days at 21 Leeson Park, Dublin. The heaviest fall in 24 hours was .790 inch on the 6th.

Mr. Robert O'B. Furlong, C.B., returns the rainfall at Cloncvin, Killiney, at 1.64 inches on 19 days. The maximal fall in 24 hours was .63 inch on the 6th. The average January rainfall of the 23 years (1885-1907) was 2.340 inches on 16.6 days. Snow and sleet fell on the 28th.

In Cork, Mr. William Miller measured 2.52 inches of rain on 20 days, the greatest rainfall in 24 hours was .49 inch on the 14th. The rainfall was 1.71 inches in defect of the average for January.

The Rev. Arthur Wilson, M.A., reports that rain fell on 21 days at the Rectory, Dunmanway, Co. Cork, to the amount of 6.42 inches. The heaviest falls were 1.27 inches on the 15th, 1.21 inches on the 16th, .70 inch on the 23rd, .75 inch on the 6th, and .66 inch on the 14th. On the whole, it was a wet month, but with fine, cold intervals.

PERISCOPE.

THE FUNCTIONS OF THE SPLEEN.

FRIEDRICH FREYTAG contributes a long paper on the much-vexed question of the relation of the spleen to the purification and regeneration of the blood. After a review of the literature, which shows great discrepancies in the opinions of the writers on this subject—discrepancies which Freytag thinks are mainly due to faults in technic—the author describes his own experiments, which were made on rabbits of one year old, and which were intended to show:—(1) The effects of the extirpation of the spleen on the condition of the erythrocytes, the amount of hæmoglobin, and the leucocytes, and to confirm these experiments by observations of organs, such as the liver, which contain abundant iron; (2) To establish still further the blood-purifying function of the spleen by a histological examination of those organs which can act vicariously for the spleen, such as the lymphatic glands. The experiments are described at great length, and incidentally the writer gives valuable directions as to the methods of counting the corpuscles in the hæmatocytometer, a method of investigation which is often employed so imperfectly that it is more apt to lead astray than to enlighten the observer. After extirpation of the spleen Freytag finds that there is no diminution in the number of the red corpuscles of the blood or in the iron. On the contrary, there is a temporary increase, followed by a diminution, with return to normal after a few days. The spleen cannot, therefore, be looked on as a *blood-forming* organ, but must be considered as an organ in which the corpuscles undergo destruction, the arrest of this destruction causing the temporary increase in the number of corpuscles after splenectomy. When the spleen is removed the store of iron which it contains is lost, and when the store of this substance which is contained in the liver is exhausted a diminution of red corpuscles takes place, but this is only temporary, as other organs take on the function of retaining iron from which the hæmoglobin can be formed. The iron of the liver, normally 0.2 per cent., had sunk on the 9th day after extirpation of spleen to 0.001 per cent., but on the 13th day had risen to 0.008, and on the 21st day to 0.94, and had become

normal in from 4 to 6 weeks. An increase in the iron, in pigmentary form, was also found in the lymphatic glands. Interesting histological observations on these organs are recorded. As regards the leucocytes, a temporary fall, followed by a rise in number (not ever amounting to hyperleucocytosis), with return to normal, was observed. The writer looks on the white corpuscles as not specially blood elements, but as belonging to the entire organism, and thinks that they shift their position according to the needs of the economy. The increase after splenectomy may be explained by the presence in the blood of waste products, which are normally stored in the spleen: these attract leucocytes into the circulation. Finally it was found that the regeneration of the blood after a large hæmorrhage took place equally well in animals deprived of their spleens as in those who still preserved this organ. From all this the author concludes that the spleen is not a blood-forming, but a blood-purifying, organ; that in it is stored up the iron derived from the destruction of the corpuscles, and which is here made again available; that when the spleen is removed the retention of iron is diminished, but the iron can be for a time supplied from the store in the liver. Soon, however, the lymphatic glands gain a vicarious power of storing the iron, and the condition of the blood and of the iron metabolism becomes normal again.—*Arch. f. ges. Physiologie*, Bd. 120. 1907.

BILATERAL THROMBOSIS OF THE SIGMOID SINUS.

DR. GRUENING reports a case of this condition in which, shortly, the sequence of events was as follows:—Influenza and double acute mastoiditis; operation on both mastoids, with simple opening of the antrums. For eleven days all went well, and then the temperature rose suddenly: both sinuses were now freely exposed, and pus was found near both of them. As they did not seem to be thrombosed, the patient—a female—was put back to bed. Four days after this the temperature was still higher: the left sigmoid sinus looked discoloured, and was hard to the touch. It was incised; a large thrombus was removed, and the patient again returned to bed. A week went by and another rigor set in; this time the right sinus was found affected, and the jugular vein was tied in the neck. After another week, another rigor; and the source of trouble was located in the central stump of the jugular. This was again ligatured lower down and

opened. After this the patient did fairly well—if one excludes general septic symptoms and pains, which naturally took place—and after a year she can be reported as quite well. The case is worth reporting seeing that the circulation of the brain was carried on in spite of the fact that both lateral sinuses were blocked. The only conclusion can be that there was an interval of a week between the two, which gave time for a collateral circulation to be established.—*Transactions of the American Otological Society*, Vol. X., Part III., 1907.

BILATERAL ABDUCTOR PARALYSIS OF THE LARYNX.

DR. KNIGHT read a paper on a case of the above, and mentioned several things of interest in connection with this rare affection. Formerly it was considered that abductor paralysis was one of the rarest of the laryngeal neuroses, but of late many cases have been reported and collected, and one can hardly consider that a unilateral affection is anything out of the ordinary, but certainly a bilateral affection is considered very rare. The origin of the disease may be central or peripheral, generally the former when both sides are involved. The causes assigned are various. Tabes, syphilis, pressure from swollen glands, aneurysm, or a new growth, diphtheria, hysteria, lead-poisoning or other toxæmia, fright, voice strain, peripheral neuritis, are all mentioned by different writers. A good many cases of tabes have been reported where the first symptom was a laryngeal paralysis, and the other symptoms did not develop until many months afterwards. Dr. Knight's case, under treatment, gradually got better, and he had not to do a tracheotomy, as is usual in these cases. He mentions that his treatment consisted of inhalations of a solution of menthol in oil, strychnin internally, and increasing doses of potassium iodide. Four methods of dealing surgically with bilateral abductor paralysis have been proposed—(1) intubation, (2) ablation of the soft parts lining the voice box, (3) division or resection of the inferior laryngeal nerve, (4) tracheotomy.—*Transactions of the American Laryngological Association*, 1907.

PURULENT INFLAMMATION OF THE NASAL AND AURAL CAVITIES.

DR. HOLMES has written a long account of erysipelas and its relation to purulent inflammation of the nasal and aural cavities. He first shows that most authorities agree that the streptococcus

which produces erysipelas may cause an abscess, and *vice versa*. The examination of pus from the nasal cavities revealed the presence of many different micro-organisms, such as the pneumococcus, staphylococci, streptococci, Hoffmann's bacillus, the *Bacillus aureus*, the *Bacillus mesentericus*, spirillum, the bacillus of Friedländer, *Proteus vulgaris*, and in one case an unknown bacillus; and for that matter all these can be found in healthy noses, so that we must recognise that the streptococcus of erysipelas is ever present, and that it needs but the lowering of resistance of the host, or the exaltation of the virulence of the streptococcus, to produce the disease—erysipelas. He has collected many opinions which go to show that in most cases of erysipelas the *fons et origo mali* is to be found in the nose, and that the large majority of cases of erysipelas commence not merely in the face but at the edge of the nose. As for contagion, it may be definitely stated that erysipelas is not air-borne, and that, therefore, it is not infectious but contagious, and of this we have practical proof, as it is no longer a disease which, if it enters a hospital ward, is found to spread throughout it.—*Transactions of the American Laryngological Association*, 1907.

SPONTANEOUS RUPTURE OF A CORONARY ARTERY.

THE following remarkable case is reported in *The Hospital*, January 18, 1908:—"The patient was a woman of seventy-four, who had no albuminuria, but whose arteries were extensively affected by atheroma. One day she suddenly had an ordinary apoplectic seizure, which left behind it complete but transient right hemiplegia. The lesion was clearly a hæmorrhage in the neighbourhood of the left internal capsule from the giving way of an atheromatous lenticulo-striate artery. The hemiplegia rapidly got less, so that the hæmorrhage was probably a small one. Four days later, when the patient seemed to be going on famously, she suddenly fell dead from no apparent cause. It seemed probable that she had had an increase in her cerebral hæmorrhage, though the end was perhaps rather sudden for this, but at the autopsy the following condition of the heart was found:—The pericardium was distended with blood-clot, which uniformly moulded over the walls of the heart. The myocardium was fatty and friable, and contained numerous diffuse hæmorrhages into its substance, though there was no breach in the wall of any of the cavities. The aortic and mitral valves were atheromatous,

but neither incompetent nor stenosed. The coronary arteries, though pervious, were very atheromatous, and near the bifurcation of the left one there was solution of continuity of its anterior branch. It was clear that the bad coronary arteries had suffered numerous small ruptures, which had caused the interstitial hæmorrhages in the myocardium, and that the sudden syncope and death were due to a large rupture, from which blood had escaped directly into the pericardium."

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Invalid Bovril.

THE BOVRIL COMPANY, LIMITED, have sent us a sample of this modification of their well-known specialty. "Invalid Bovril" differs from the ordinary preparation only in so far as it contains less seasoning. Bovril is obtained by extracting from fresh meat the albumen and fibrin which comprise its nutritive properties. This albumen and fibrin, in the shape of a fine powder, are added to the extracts or juices of beef—the combination is bovril. Beef-tea and the ordinary extracts are stimulants only. Their effect may be compared to the poking of a fire; by the admission of air you make the fire blaze up, but it burns out all the sooner unless you add more fuel. Bovril stimulates and nourishes, for it contains tissue-forming material, so making blood, brain, muscle and bone. Bovril is cheaper than beef-tea. A pint of beverage made from the 7 lb tin (hospital pack) at 4s. 6d. costs less than 3d., whereas a similar quantity of the home-made article will cost anything from 7d. to 9d.; in the latter case time, trouble and fuel must be reckoned also. Bovril does not vary in quality. Beef tea varies with the skill of the cook. The ingredients of Bovril are never touched by hand during manufacture. The factory itself is probably the finest of its kind in the world. Bovril is analysed and tested before being sent out. It is used in over 2,000 hospitals and institutions, and is exported to every civilised country.

Formamint.

FORMAMINT is a chemical combination of formic aldehyde and milk sugar, having the formula $5 \text{CHOH}, \text{C}_{12}\text{H}_{22}\text{O}_{11}$. This combination has deprived the formic aldehyde of its irritative effect on the mucous membrane of the mouth and throat. Rheinboldt

(*Deutsche medizinische Wochenschrift*, 1906, No. 15) states that experiments with formamint proved that it had no internal effect, such as that due to the administration of pure formic aldehyde for example formalin. Its composition is .01 gram formic aldehyde in every gram tablet of formamint. The tablets are allowed to dissolve in the mouth. The action of the saliva sets free the formic aldehyde in a nascent condition; this has an immediate bactericidal action, with the result that formamint is proved to have very well indicated uses in all cases of asepsis of the oro-pharyngeal regions, the saliva containing formamint being carried into every crevice of the mucous membrane lining the mouth and throat. Seifert (*Pharmakologische und therapeutische Rundschau*, No. 14, 1905) reports its use with success in tonsillitis and pharyngitis. Daus (*Medizinische Klinik*, 1906, No. 16) records its successful administration in quinsy, follicular tonsillitis, mumps and otitis media, and demonstrates its bactericidal action by experiment with streptococci and bacilli cultivated on an agar plate. Norman (*Medical Press and Circular*, Dec., 1906) refers to its successful use in rendering the oral region aseptic, and demonstrates the utility of formamint in pyorrhœa alveolaris. Wyatt Wingrave (*The Lancet*, Oct. 20, 1906) reports generally as to its use. Meredith Young (*Practitioner*, March, 1907) speaks of its value in all infective throat conditions, especially mentioning scarlet fever, tonsillitis, diphtheria, measles and thrush. De Santi (*Medical Magazine*, March, 1907) demonstrates the value of formamint in cases of septic throats, and speaks of its high bactericidal action. Zwillinger (*British Medical Journal*, Jan. 13, 1906, Epitome) reports on the value of the preparation in diphtheria. Schwarzenbach (*Lancet*, Dec. 23, 1905) reports its successful use in streptococcal infections, in erysipelas, erythema nodosum, tonsillitis and pharyngitis.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

APRIL 1, 1908.

PART I.

ORIGINAL COMMUNICATIONS.

ART. X.—*The Dublin Tuberculosis Exhibition of 1907, and the Lessons to be learned from it.*^a By SIR ROBERT MATHESON, LL.D., Barrister-at-Law, Registrar-General for Ireland.

IT was in the summer of 1907 that the idea of having a Tuberculosis Exhibition, in connection with the Dublin International Exhibition, under the auspices of the Women's National Health Association of Ireland, presented itself to our august Vice-reine, the Countess of Aberdeen. The time, however, was very short to prepare for such an undertaking, as the International Exhibition was to close early in November, and the holiday season intervened, when many would necessarily be absent from Dublin. However, Her Excellency triumphed over all difficulties. She formed a Committee to take charge of the work, under her own personal direction, and soon all necessary preparations were in progress.

The Exhibition was held in the Village Hall and in the Industrial Hall of the Irish Industries Section of the International Exhibition at Ball's Bridge, Dublin.

EXHIBITS.

The exhibits were divided into four sections, viz. :—

1. *Statistical Section.*—This section was under the charge of

^a Lecture delivered at the Tuberculosis Exhibition in Cork on January 6th, 1908.

the Registrar-General. The exhibits included various maps, diagrams and tables, exhibiting the *status* of the disease in Ireland, prepared by the Registrar-General; also French and German maps bearing on the subject.

2. *Literary Section*.—This section was under the charge of Dr. Alfred Boyd. It was divided into two branches—Municipal and Poor Law Branch and Miscellaneous Branch. The exhibits in the Municipal and Poor Law Branch included valuable tables, diagrams and leaflets, giving information relating to English, Scotch and Irish cities, and to New York.

The objects shown in the Miscellaneous Branch were various photographs of institutions for the treatment of tuberculosis, publications, and statistical charts. There was also in this section a valuable historical exhibit, consisting of works of historical interest in connection with consumption, collected by Dr. T. P. C. Kirkpatrick.

3. *Pathological Section*.—Professor McWeeney's exhibits included a culture of human tubercle bacilli, lung showing tubercles and cavities, viscera of small animals showing effect of inoculation with human tubercle bacilli, water-colour drawings and diagrams, and lantern slides illustrating the disease. He also showed a valuable set of six German diagrams which were exhibited at the Berlin Conference, 1907. Several models of the sputum of consumptive persons were shown by Dr. C. L. Birmingham, of Westport, Co. Mayo. Professor Mettam's exhibits, from the Royal Veterinary College of Ireland, dealt with the subject of tuberculosis in the lower animals, and included illustrations of the disease in various animals.

4. *Appliances Section*.—This section consisted of appliances used in the treatment of consumption, models of sanatoriums, milk sterilisers, books, papers, &c. The outdoor department of this section exhibited chalets, sun boxes, and a tent for the accommodation of consumptive patients. Contrast bedrooms were also shown in Model Labourer's Cottage No. 2, on the Village Green, illustrating an insanitary bedroom compared with one constructed in accordance with modern sanitary requirements.

OPENING OF THE EXHIBITION.

Previous to the formal opening of the Exhibition a meeting of the Consultative Committee and of delegates from public bodies throughout the country was held on the afternoon of the 11th of October, 1907, at which those in charge of the various sections gave an account of what had been done.

On the evening of the 11th of October, under the auspices of the Council of the Women's National Health Association of Ireland, a lecture was delivered by Professor William Osler, M.D., F.R.S., of Oxford.

Professor Osler pointed out, in the course of his lecture, that human efficiency had already overcome typhus and enteric fever and malaria, and now there remained the great scourge of tuberculosis to be contended with. He went on to say that in the past twenty-five years there had been an extraordinary increase in our knowledge of this disease. We know the germ and whence it comes—namely, from tuberculous patients and from the milk of the tuberculous cow. The important point is for us to avoid bad food, bad air, and bad drink, and so prevent the growth of the germ if it enter our bodies, either through the breath or swallowed with our food. He further stated that we have learned how to recognise the disease, how to prevent it, and how to cure it. Professor Osler then pointed out several means by which the combat against tuberculosis might be brought to a satisfactory conclusion, the principal being the re-organisation of the public health service, so that the authorities would have early notification of all cases of the disease, and be enabled to carry out measures with reference to disinfection, and to control the hovels in which the poor live. The lecturer advocated the building of cheap sanatoriums, which could be burned down every fifth or sixth year, and the provision of separate wards for the treatment of advanced cases. Tuberculosis in its early stages could be dealt with by the patients in their own homes, with proper advice from dispensaries and district nurses.

The Tuberculosis Exhibition, established under the auspices of the Countess of Aberdeen and the Council of the Women's

National Health Association of Ireland, was formally opened on the afternoon of the 12th of October, 1907, by His Excellency the Lord Lieutenant, and during the proceedings a message of sympathy with the movement was read from His Majesty the King.

THE LECTURES.

The ordinary lectures, of which there were twenty-one, were, with one exception, delivered in the Village Hall, Home Industries Section, of the International Exhibition, and were listened to with attention by large and appreciating audiences. They were arranged alternately for evening and afternoon, so that all classes of the community might be afforded an opportunity of benefiting by them. We may classify these lectures, according to the subjects treated of, as follows:—Statistical and General Aspects, Infection, Sanatoriums and Consumption Dispensaries, Surgical Treatment, Economic Aspect, Open-air Treatment and Healthy Breathing, Tuberculosis in the Lower Animals, Housing in connection with Tuberculosis, and Educational.

Statistical and General Aspects of the Disease.—These were dealt with by the Registrar-General, Sir Charles Cameron, C.B., and Dr. Lawson, of Banchory, N.B.

The Registrar-General referred to the ravages wrought by consumption in Ireland, and to the excessive death-rate from pulmonary tuberculosis in this country as compared with England and Scotland, and with Foreign States.

Sir Charles Cameron gave some statistics regarding consumptives and deaths from consumption in Dublin. He stated that the Irish have a tendency to contract the disease both at home and abroad. It was common to every period of life.

Dr. Lawson drew attention to the unenviable position which Ireland holds as regards consumption, and showed how very badly we are supplied with beds for the treatment of consumptive patients. He mentioned the extinction of leprosy in this country as an encouragement for the campaign against tuberculosis, advocating measures for the supply of pure milk and regulations against expectorating in public.

Infection.—Lectures on this subject were given by Dr. Birmingham, of Westport, and Surgeon Tobin.

Dr. Birmingham stated that the most common form of tuberculosis infection was the sputum or phlegm of a consumptive person. So long as the sputum remained moist there was no danger of infection, as the tubercle bacilli could not escape, but once the phlegm became dry the bacilli were freed and blown about to the common danger. Special care, therefore, should be taken to have the sputum of patients immediately destroyed.

Surgeon Tobin considered that, on account of the infectivity of tuberculosis, the prevention of the disease appealed to all classes. He was in favour of a milder Act, in respect of tuberculosis, than that at present in force for dealing with the other infectious diseases, as milder measures would be more likely to be completely adopted.

Sanatoriums and Consumption Dispensaries.—The advantages of sanatoriums and consumption dispensaries were pointed out by the following lecturers :—Professor McWeeney, Dr. Parsons, Dr. Hare, and Dr. Dunne.

Professor McWeeney gave an account of the campaign against consumption as it is waged in Germany. Presiding over the movement was the Central Committee for the Prevention of Tuberculosis. This Committee, aided by funds and machinery with which to fight the plague, by the Workmen's Insurance System, contributed towards the establishment and up-keep of sanatoriums, &c. Consumption dispensaries are also established in Germany, and Professor McWeeney considered that such dispensaries for the treatment of consumption would be most useful in Ireland.

Dr. Parsons, who is Consulting Physician to Newcastle Sanatorium, having given some account of foreign sanatoriums, went on to say that they could not tell how many cases were cured at Newcastle, as a patient could rarely be kept there long enough to have a complete cure effected. But the patients are taught how to live ; the disease is arrested ; and if they can follow up the treatment, as received at the sanatorium, on their return home, they often do remarkably

well. They should be visited in their homes and encouraged to pursue the treatment which they have been taught in the sanatorium.

Dr. Hare's lecture was mainly an answer to various objections which have been advanced from time to time against the use of sanatoriums for the treatment of consumption. He showed that there was no reason to fear infection in such institutions, owing to the manner in which they are conducted, and pointed out that fresh air has been proved to be a most important factor in the cure of the disease.

Dr. Dunne showed the urgent need there is for sanatoriums and tuberculosis dispensaries for the poor in Ireland. In sanatoriums pulmonary consumption should be treated in a separate building from other forms of tuberculosis, and incipient cases should be kept from contact with advanced cases. A patient well trained in a sanatorium knew how to preserve his own health and how to protect others, and exercised a saving influence on the surroundings to which he was restored. By means of dispensaries for the treatment of the disease patients could be visited in their own homes by the trained nurses attached to the institution, cases of tuberculosis would be recognised in their early stages, and the patients would thus stand a far better chance of complete cure.

Surgical Treatment.—Surgeon Lentaigne and Surgeon M'Ardle were the lecturers on this aspect of the question.

Surgeon Lentaigne took as his subject "Tuberculosis of the Bones and Joints," and pointed out that the various manifestations of the disease should receive attention, not only so far as it affected the lungs. In his opinion the improvement in the treatment of tuberculous bones and joints was even more marked than in the treatment of pulmonary tuberculosis.

Surgeon M'Ardle dealt with "The Serum Aspect of the Surgical Treatment of Tuberculosis." He referred to the serum treatment for small-pox and diphtheria, and expressed his opinion that consumption was on the high road to being stamped out by a similar method.

Economic Aspect.—This was treated of by Professor Lindsay,

of Belfast, and Mr. P. J. O'Neill, Chairman of the Dublin County Council.

Professor Lindsay stated that the Irish climate is probably only a small factor as regards the prevalence of phthisis in this country. The disease will be stamped out in proportion as the social level is raised and the people educated in true views of life and healthy habits of living. The lecturer calculated that the loss entailed annually on Ireland by tuberculosis was not less than a million of money, and therefore it would be cheaper in the end to spend what is necessary in the prevention, treatment and cure of the disease.

Mr. O'Neill spoke on the duty of public bodies in Ireland with regard to the campaign against tuberculosis. He considered that local authorities should do all in their power to follow up the recommendations which had been formulated during the medical conference of the past few weeks—viz., compulsory notification, inspection of food, schools, and school children; and the provision of hospitals and sanatoriums.

Open-air Treatment and Healthy Breathing.—These subjects were dealt with by Mr. George Fletcher, F.G.S.; Professor W. H. Thompson, and Dr. Smyth, of Altadore Sanatorium.

Mr. Fletcher showed the importance of breathing pure air, and of obtaining it in our houses by proper ventilation. He also stated that few people know how to breathe properly. The breaths should be long, in order to completely fill the lungs, and they should be taken through the nose.

Professor Thompson stated that open-air exercise and good food were the main essentials for good, sound breathing and proper vitality. If the chest were not filled with fresh air in breathing, harm, instead of good, would be done. The air we breathe is purified in its passage through the nostrils and freed from microbes and dust particles before it reaches the lungs.

Dr. Smyth discussed the subject of the climate of Ireland, having regard to the open-air treatment of consumption. He thought Ireland could compare favourably with other countries

from this point of view. At Nordrach, in the Black Forest, where such excellent results are obtained from the open-air treatment, the climate is no better, and in many respects worse, than that of Ireland.

Tuberculosis in the Lower Animals.—Professor Mettam, Principal of the Royal Veterinary College of Ireland, delivered two lectures on this subject. He stated that the ox was most commonly affected by the disease, and the pig was second in order of the lower animals which suffer from it, but all animals are capable of being infected by tuberculosis. It is most important, in his opinion, that all cases of open tuberculosis be destroyed, and that there should be one central slaughter-house, so that the inspection of meat would be thorough and complete. There should also be a central receiving place for milk, where it could be pasteurised and ensured to be free from disease.

Housing in connection with Tuberculosis.—The late Professor Antony Roche and Surgeon-Colonel Edgar Flinn were the lecturers on this subject.

Professor Roche considered that any money that could be spared for fighting the disease in this country would be better used by improving the housing accommodation than by building sanatoriums, as at present the overcrowded dwellings were appalling.

Surgeon-Colonel Flinn, in the course of his lecture, said that the first step in the campaign must be to get the houses of the labouring classes into a clean and sanitary condition. The sanitary authorities could help by giving special attention to the administration of the Public Health Acts, and by seeing that the regulations regarding dairies, &c., were more generally adopted.

Educational.—Professor Culverwell dealt with this aspect of the question in his lecture—"How School Teachers can aid in the Fight against Tuberculosis." He pointed out that consumption is the result of human carelessness, and people must be made to realise this and to grasp the idea of the benefits arising from fresh air and cleanliness. Teachers could do much by impressing on the children habits of cleanliness and

good health, and managers of schools should see that the buildings are thoroughly disinfected every week. The means of preventing consumption in the young will be the means of making them efficient in every walk of life.

CONFERENCE ON DISTRICT NURSING.

A Conference was held on the 7th of November on the question of district nursing as it affects tuberculosis, at which Her Excellency the Countess of Aberdeen presided.

Miss Guy, Lady Superintendent, Royal Hospital for Consumption, Edinburgh, gave an account of the working of the Hospital as such, and as a consumption dispensary, explaining the plan adopted of house-to-house supervision and relief. This duty was undertaken by nurses carefully trained in modern open-air methods, working generally under the direction of the physicians attached to the dispensary.

Her Excellency expressed a hope that a consumption hospital similar to that which Miss Guy represented would soon be established in Dublin.

Mr. Walker, of the Congested Districts Board, gave an account of the work done by Lady Dudley's nurses in the West of Ireland, and illustrated their methods of work by means of lantern slides. These nurses had been responsible for serving 45,000 people.

Miss Fitzgerald Kenny, Inspector of Boarded-out Children in Ireland, showed how district nurses could aid in the work of stamping out tuberculosis. If consumption dispensaries were established in Ireland the need for these nurses would be imperative. Miss Kenny also gave an account of the working of such a system in Paris, and referred to its satisfactory results.

The Most Rev. Dr. Donnelly, Bishop of Canea, in proposing a vote of thanks, pointed out that an appeal had been made by the Women's National Health Association, through Her Excellency the Countess of Aberdeen, to the several hospitals of the city, asking them to set aside one day in the week as a dispensary day for tuberculous patients.

CLOSING MEETING.

The closing meeting in connection with the Exhibition was held, under the presidency of His Excellency the Lord Lieutenant, on the 8th of November, in the Theatre of the Royal Dublin Society's Building, Kildare Street, at which two special lectures were delivered by Sir Shirley F. Murphy, Medical Officer of Health, London County Council, and Dr. Chalmers, Medical Officer of Health, Glasgow, on "The Control of Milk and Food Supplies, and Certain Conditions affecting Tuberculosis." Sir Shirley Murphy pointed out that much of the work of preventing the disease depended upon the public bodies in town and country, and referred to the striking decline in the death-rate of London, which had been brought about mainly by the work of the local authorities. He then dealt with the importance of proper food and healthy surroundings, which would strengthen the resisting power of the people, and enable them, if attacked, to successfully shake off the disease. He further alluded to the onus which rested on public bodies of excluding suspected milk from their districts, and advocated the periodical veterinary inspection of all cows, the branding of animals showing signs of tuberculosis, and the establishment of public slaughter-houses.

Dr. Chalmers stated that nomadic races were not inclined to consumption, and that it was not till the Arabs became town-dwellers that they suffered to any extent from the disease. The larger the town, the heavier was the death-rate from phthisis, and in towns where poverty and ignorance were greatest the disease was most prevalent. As regards the question of infection through milk, the lecturer expressed his opinion that the Dairies Order, which dealt with the conditions under which milk was produced, was the aspect of the subject which most urgently demanded attention. Cleanliness in milk production was an absolute necessity, and local authorities should make full use of the powers conferred on them by that Order to regulate the environment of cows, by attending to the sanitation of byres and cowsheds.

THE PRINCIPAL LESSONS TO BE LEARNED FROM THE TUBERCULOSIS EXHIBITION.

Let us now consider the lessons which are to be learned from the Tuberculosis Exhibition. Of what avail is it to have visited this Exhibition, to have inspected the diagrams, models, &c., set forth for our instruction, and to have attended lectures dealing with the terrible disease of tuberculosis, if we have not, at the same time, learned something by these means ?

1. *Tuberculosis—a terribly Fatal Disease in Ireland.*—The first lesson we have learned is that tuberculosis is the chief factor in the mortality of Ireland. The deaths from it far outnumber those from any other cause, and exceed the total of deaths from all the infective diseases put together. We have further seen that while in England and Scotland, during the past forty years, a remarkable decrease in the mortality from the disease has occurred, in Ireland there has been an increase ; and that, while in 1864 Ireland had the lowest mortality of the three kingdoms, in 1905 she occupied the highest place. We further ascertained that in the age periods 15–45, forming the backbone of our population, the mortality is proportionately much greater for tuberculosis than in England and Scotland. It has also been demonstrated to us that, viewing the statistics of tuberculosis in the civilised countries of the world, so far as obtainable, Ireland occupies, as regards mortality from the disease, a very unfavourable position.

2. *Tuberculosis—a highly Infectious Disease.*—The next point we have ascertained is that tuberculosis is in a high degree infectious. The lectures have taught us of the great danger that exists from the sputum of consumptive patients, and how frequently other members of a family become infected from one sufferer. They have also shown us that the infection can be transmitted from the lower animals, mainly through the medium of milk or of meat.

3. *Tuberculosis—a Preventable Disease.*—The third lesson we have learned is that tuberculosis is a preventable disease, and we have been shown how it can be prevented. In the first

place, by strict attention to cleanliness of the person and of our surroundings, and by admitting plenty of fresh air into our dwellings ; secondly, by improving the houses and raising the social level of the poor, and by having arrangements made for the inspection of meat and milk, so as to preclude the possibility of infected food being used ; and, thirdly, by having special consumption dispensaries, where the very poorest would get that advice and instruction so necessary if the disease is to be checked at its inception.

4. *Tuberculosis—a Curable Disease.*—Lastly, tuberculosis is a curable disease, *when taken in its early stages*. Medical advice should be obtained on the appearance of the first symptoms, and it is in this respect we have learned how very necessary sanatoriums and special hospitals are for the proper treatment of the disease. Tuberculosis is, as a rule, tedious to treat, and consequently the complete cure of a patient is a matter of some length of time. If sanatoriums be provided for the poor, as we hope they will be, then patients sent to them from the consumptive dispensaries, when the disease is first noticed, stand a very good chance of a complete cure.

Now that the crusade against this dreadful scourge of our country has been organised so successfully, by one who has ever been foremost in works of philanthropy in our land, Her Excellency the Countess of Aberdeen, let us see that we take our share of responsibility in the matter, by prosecuting with vigour the effort to minimise the ravages of this terrible malady. The outlook is hopeful. What has been done in the cases of leprosy and typhus can, we may reasonably expect, be done as regards tuberculosis. We have found that this disease is more prevalent the lower we descend in the social scale, and that the persons most affected by it are those who, from lack of means, are least able to cope with it. It rests with us, then, to stretch out a helping hand to our poorer fellow-countrymen, and do all in our power to bring this campaign to a successful issue.

ART. XI. — *A Microscopic Examination of the Viscera after the Operation of Gastro-Jejunostomy for Non-malignant Disease.* By W. J. GREER, F.R.C.S.I.: Honorary Consulting Surgeon Pontypool Hospital; Honorary Surgeon to In-Patients' Newport and Monmouthshire Hospital.

I DESIRE to present for the consideration of my surgical colleagues the result of my histological examination of the stomach and intestine in two cases of gastro-jejunos-tomy by Murphy's button for non-malignant disease of the stomach. The greater portion of section cutting and staining was carried out in the Pathological Laboratory of University College, Cardiff, and I am deeply indebted to Dr. H. A. Scholberg for his most valuable assistance in this work. The photomicrographs were prepared by myself in my own laboratory.

The patients from whom these specimens were removed were about forty and forty-five years of age respectively at the time of death: the operations were performed nearly four years previously. The patient known and designated hereafter in this paper as S. had suffered for many years from a very severe form of dys-pepsia—acute pain and vomiting being the most prominent of the symptoms. The pain was so violent at times that a well-known London surgeon advised and carried out an exploration of the gall-bladder. No stones were found, nor did the patient receive any benefit from the operation. Another distinguished London surgeon was consulted, who recommended an operation on the stomach. The gastro-jejunos-tomy was then done with a large Murphy's button. One might almost believe that misfortune was predestined to attend this man, for the button never passed. It lodged in the cæcum and was removed by operation. This operation wound refused to heal, so a fistula remained to the day of his death. After the removal of the button an abscess formed about two inches above the centre of Poupart's ligament on the *left* side. This was opened, and a second fistula resulted, which

occasionally closed. Later on, yet another fistula, for some rice which he had taken was passed per urethram. It was a sight that one would remember to see this ill-fated man drinking a cup of cocoa and then using another vessel at the cæcal fistula to collect it. Truly "after life's fitful fever he sleeps well."

The *post-mortem* revealed such a condition of things as will readily account for the untoward results of the operation. The peritoneum, as such, had quite disappeared; all the abdominal organs were set in a thick, dense, almost cartilagenous, mass of fibrous tissue, the viscera were barely distinguishable, and it required a prolonged, careful dissection to remove them. The great omentum existed as occasional islets of fat scattered over the intestines and abdominal wall. The stomach was densely adherent to the abdominal wall, the pylorus in about the normal situation, the organ not dilated but thinned, the button stoma being the most dependent part. The junction situated about two and a half inches from the pylorus and appeared to be on the posterior surface, the circular area of its attachment half an inch; it was firm and secure; from stomach to jejunum it admitted a No. 12 catheter; from the jejunum it admitted a No. 3 catheter. The pylorus will just admit about a No. 16 catheter. The junction with the jejunum was situated nearly twelve inches from its beginning. There were no ulcers or cicatrices to be seen in either stomach or intestines.

The other abdominal organs were healthy. The bladder, as before mentioned, had an opening into it from a loop of ileum. A finger could be passed from the cæcal fistula and another finger from the fistula on the left side, so as to meet in the loop of ileum at its opening into the bladder. Death was due to exhaustion.

This case probably illustrates the most unrelenting form of non-malignant disease that can be dealt with by the operation of gastro-jejunosomy. It speaks much in favour of the button that it effected a junction, considering the thinness and atrophy of the organs.

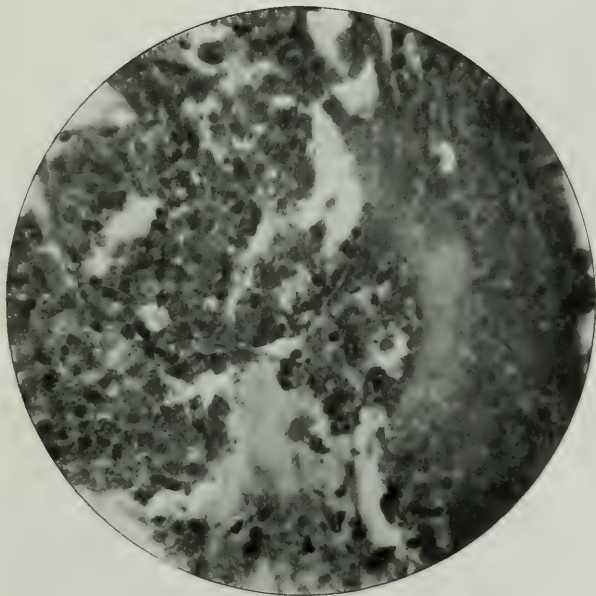
MR. W. J. GREER on "Microscopic Examination of the
Viscera."



1 S.

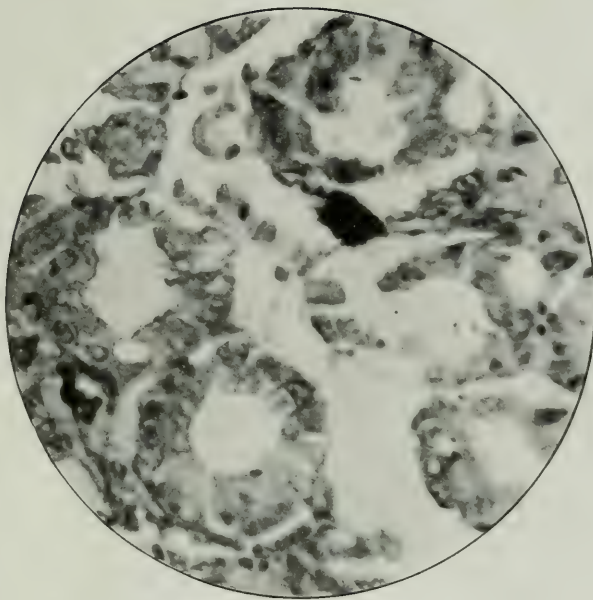
Cardiac End of Stomach $\times 30$.

This shows atrophy and some separation of the glandular elements, thickening of the muscularis mucosæ, reduction of the muscular coats into fibrous tissue, atrophy and separation of the bundles of the remaining musculature.



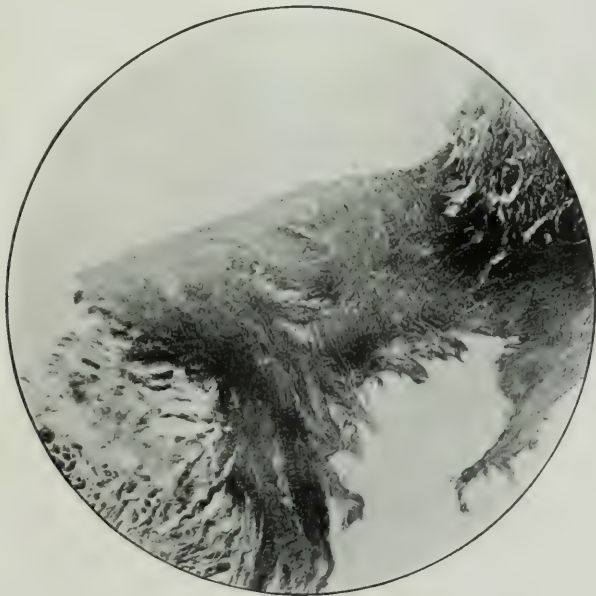
2 S.

Cardiac End of Stomach: Glands $\times 650$.
Granular appearance with loss of glandular arrangement.



3 S.

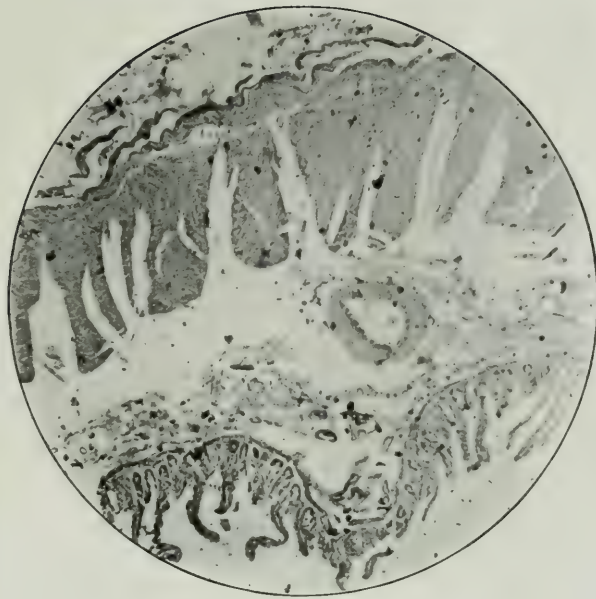
Pylorus: Glands $\times 650$.
Some atrophy of the glandular elements, not so marked as in the cardia.



4 S.

Gastro-jejunal Junction $\times 30$.

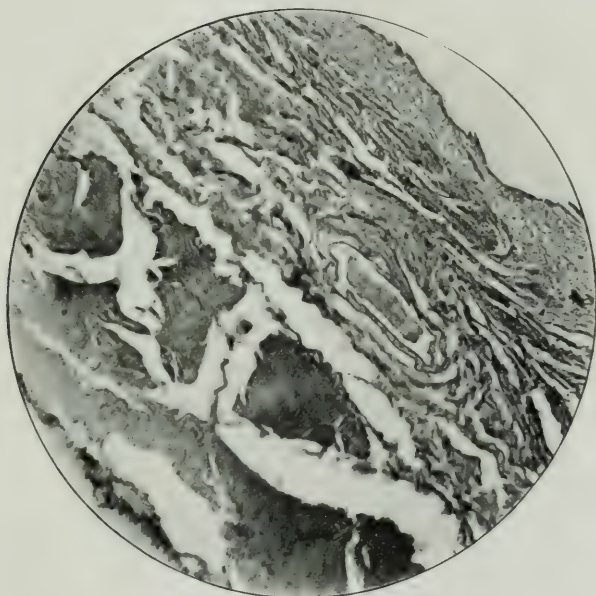
Showing stomach and intestinal sides of junction with mass of fibrous tissue between, the anastomosis being entirely maintained by the fibrous tissue. Atrophic intestinal mucous membrane, mass of fibrous tissue. This figure shows that each side of the junction retains the characteristic features of the viscus.



5 S.

Small Intestine about 18 inches below Junction $\times 30$.
Atrophy of mucous membrane and muscular coats.

MR. W. J. GREER on "Microscopic Examination of the
Viscera."

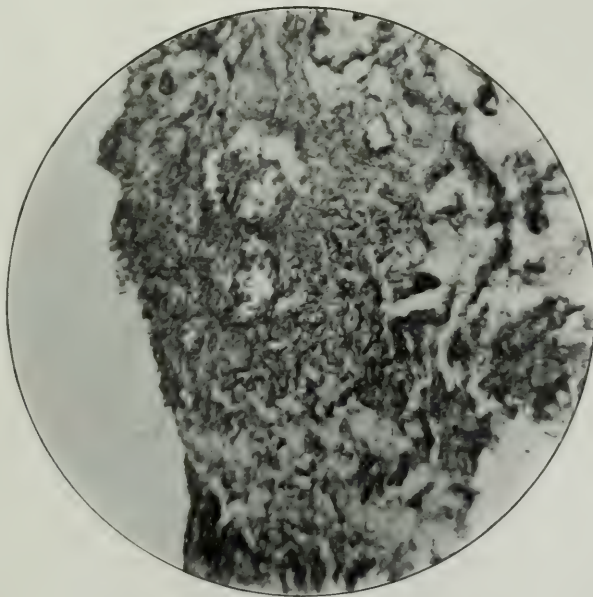


1 Fr.

Cardiac End of Stomach $\times 30$.

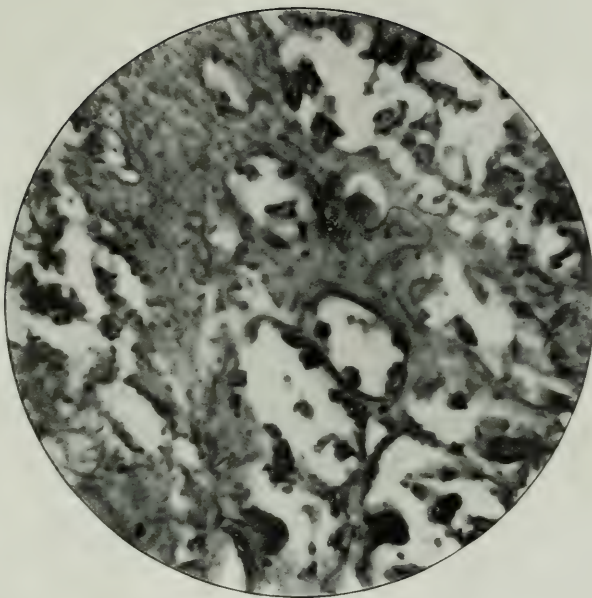
Thickening of the mucosa, muscularis mucosae is about normal; some increase of fibrous tissue between the muscle bundles.

MR. W. J. GREER ON "MICROSCOPIC EXAMINATION OF THE VISCERA."



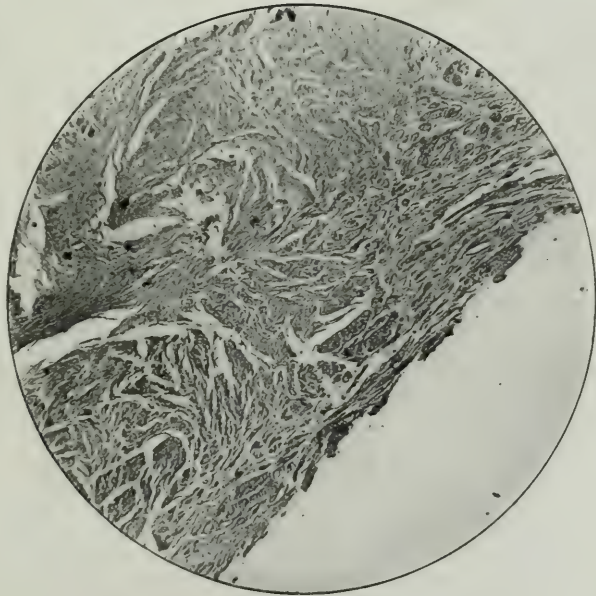
2 Fr.

Cardiac End of Stomach : Glands and Muscularis Mucosae $\times 250$.
Some dilatation of ducts, increase of inter-cellular interstitial tissue.



3 Fr.

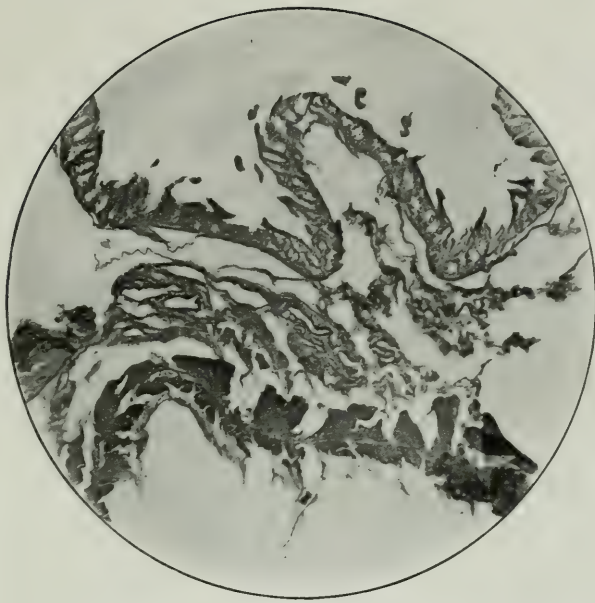
Cardiac End of Stomach : Glands $\times 650$.
Atrophic cells, increase of fibrous tissue.



4 Fr.

Gastro-jejunal Junction $\times 30$.

Showing stomach and intestinal sides of junction with mass of fibrous tissue between; very little muscle to be seen. As in the case of "S," this figure shows that each side of the junction retains the characteristic features of the mucous membrane of its viscous. In this case, though the anastomosis is a better one than in "S," there is no muscularis mucosae to be seen.



5 Fr.

Small Intestine about 18 inches below Junction $\times 30$.
Atrophic appearance of mucous membrane and shrinkage of muscle.

The second case, known as Fr., had been under treatment for about two years for stomach trouble, the chief symptoms being pain and vomiting about an hour after food. The patient was so distressed, and was losing ground so rapidly, that I determined to operate; a posterior gastro-jejunostomy by Murphy's button was done. The stomach was much dilated, and the pylorus was involved in a rather large mass of fibrous tissue, with adhesions. The patient got well rapidly; the button passed duly. He reported himself to me from time to time. He had increased in weight, and said that he enjoyed exceedingly good health. He expressed himself as thoroughly satisfied with the result of the operation.

About three years after this operation he died rather suddenly from an attack of cerebral hæmorrhage. His medical attendant was kind enough to inform me of this, and a *post-mortem* was made without delay. The stomach was very much smaller, the mass surrounding the pylorus was much less. In contracting it had almost completely closed the pylorus. So hard was this mass that after being embedded in paraffin it became so brittle as to fail to give any kind of a section. Unfortunately, the pylorus in this case is lost. No ulcers or cicatrices were to be seen in the interior of the stomach. The pylorus admitted about a No. 1 catheter. The button stoma was freely dilatable; a thumb easily passed into the jejunum. There were no other adhesions. The remaining organs were healthy.

This case is, of course, in an entirely different category to the last. It illustrates the favourable result of the operation, given favourable conditions. It is in sharp contrast to the first case, where I think that no surgical procedure would have had the slightest ameliorating influence on the disease.

Clinical experience proves beyond any doubt that the operation has a remarkably beneficent effect on the large majority of patients. Nevertheless it would appear from an examination of these sections that, though it is possible

that there may be an arrest of the original disorder, there does not seem to be any return to normal histological structure. This is rather what one would expect, having in mind the destructive effect of chronic inflammatory processes in other organs.

Now, though it would be unreasonable to argue that similar results as regards structure exist after all cases of gastro-jejunostomy, still the sections will provide some material for consideration. In some of the photomicrographs undoubted artefacts are recorded. Yet on the whole they are fairly credible witnesses of truth.

ART. XII. *Some Points on the Diagnosis of Scarlet Fever.*^a (Derived from Clinical Observation of 1,005 Consecutive Cases.) By G. ALLAN CROWLEY, B.A., M.D. Univ. Dubl.

THE prevalence and widespread distribution of scarlet fever, the seriousness of the conditions that not infrequently complicate this disease, and the extreme liability of children to infection, are factors all of which render it a study worthy of the close attention of the practitioner.

In the following remarks, based on a personal observation of 1,005 consecutive cases, I have attempted to emphasise the leading features of the disease, and draw attention to the points on which a reliable diagnosis may be formed.

For practical purposes, and for the better understanding of the disease, scarlet fever may be classified into three clinical varieties, viz.—(1) simple, (2) septic, (3) toxic.

This classification, designed by Dr. Caiger, is, of course, artificial to a certain extent, for, with perhaps the exception of those very rare cases of the fulminating toxic type, the three varieties merge into each other, and many intermediary cases will be noticed.

^a A Thesis read for the Degree of M.D. in the University of Dublin on March 2, 1908.

Simple Scarlet Fever.—The onset is nearly always abrupt. A sensation of chilliness is complained of, rarely severe enough to be called a rigor. In young children invasion may be ushered in by an actual convulsion. Headache, nausea, or vomiting, pains in the back and limbs, are very constantly present. The throat feels dry and burning, and on inspection the pillars of the fauces, the tonsils, and soft palate, are seen to be swollen and injected. The tongue quickly becomes coated with a thick, creamy fur, through which in its anterior two-thirds the tops of the swollen papillæ are evident.

The temperature rises rapidly, so that by the end of the first day it may reach 101° or more. The pulse-rate is very markedly increased, and is rapid out of proportion to the degree of fever.

Frequently there is swelling and some tenderness of the glands at the angles of the jaw.

Within twenty-four hours the rash comes out. Appearing first on the sides of the neck and upper part of the chest, it rapidly spreads downwards over arms, trunk, and legs, so that by the end of the second day the entire body is covered with the characteristic punctate erythema. The skin is dry and tense, and imparts a sensation of pungent heat on palpation. Pruritus is a variable symptom.

About the second or third day the tongue begins to be denuded of its fur and epithelium. The initial symptoms increase in severity; the fauces become more swollen, and deglutition is interfered with; the glands increase in size, and there may be a varying degree of infiltration of the loose cellular tissue of the neck. The temperature steadily rises, and the fastigium is reached usually on the third or fourth day of the disease, when the thermometer may register 103° . A mild degree of delirium is not uncommon in children.

Defervescence now sets in. The temperature subsides, the faucial condition improves, and swallowing becomes less irksome; the rash has become very faint, or has entirely gone, and desquamation soon begins.

About the third or fourth day the tongue is quite denuded of its fur and epithelium, and exhibits a clean, bright-red, raw surface, on which the bare and swollen papillæ form a marked feature. This is known as the "strawberry," or, as it is sometimes more suggestively termed, the "raspberry," tongue of scarlet fever.

While the foregoing description applies more particularly to cases of average severity, it should be remembered that instances of a much milder infection occur, and in these cases the rash may be so slightly marked, or so evanescent, as to escape notice altogether, and the faucial inflammation so trifling as not to arouse comment. These cases are quite as infectious as those of the more pronounced type, and they are liable to the same train of serious complications—a fact worthy of attention when considering the prognosis.

Rash.—The rash of scarlet fever usually appears within twenty-four hours from the onset of the first symptoms, and it is seldom delayed beyond the second day. It is formed by a combination of two distinct factors—(1) a number of minute injected points, set in (2) an erythematous background of varying intensity. Beginning from the sides of the neck and upper part of the chest it travels downwards over arms, trunk, and lower extremities, and is fully developed about the third day of the disease. The method of extension is worthy of notice.

A number of bright-red points appear as outposts in the unaffected skin beyond the margin of the rash. Around the base of each forms an erythematous blush which extends centrifugally. Perfect coalescence does not take place, except in the event of an intense rash, and on careful inspection the scarlet background is seen to be laced with an infinite number of extremely fine, white hair-lines, or, when the unaffected areas of skin are wider, a distinctly mottled appearance is produced.

At the bends of the elbows, in the groins, and in the folds of the skin generally the rash reaches its greatest intensity, and minute hemorrhages may occur.

On the face, palms, and soles the punctate element is absent, and a simple erythema represents the rash. The region of the face bounded by the naso-labial folds with the lower lip often present a pallor in striking contrast to the cheeks, where the flush attains a marked degree. The existence of this circum-oral ring bears no special significance.

Having reached its height about the third or fourth day of the disease, the rash begins to fade in the same order as it appeared, so that by the end of the sixth or seventh day it has entirely disappeared, leaving the skin dry, harsh, and often of a dirty yellow colour.

In such places as the posterior surface of the arms, the outer side of the thighs and the legs, a number of coarse injected papillæ persist for many days after the disappearance of the rash. This is a point of some importance, as their presence is at least suggestive of scarlet fever at a stage of the disease when diagnosis is most difficult.

Desquamation.—The degree and date of commencement of desquamation bear some proportion to the intensity of the rash; the age of the patient and the quality of the skin are also determining factors. From the third day onward the face becomes rough and scaly, and tiny flakes of dead epithelium are shed.

Quite different, however, is the exfoliation that takes place on the trunk and limbs. Here the process is termed "pinhole peeling," and it is of great value from the point of view of diagnosis.

In cases of average severity, "pinholing" starts in from four to six days from the onset of the disease, and may even be co-existent with the rash. In cases, however, of a mild type, where the rash has been faint, nine to twelve days or more may elapse before peeling begins.

In certain of the London hospitals it is the practice to isolate doubtful cases for a period of three weeks from the disappearance of the rash, and if at the end of that time no evidence of desquamation is seen, the patients are considered negative cases, and are sent home. "Pinholing"

is first evident in the infra-clavicular and episternal regions and on the pubes, then in the groins and inner sides of the thighs. After this it becomes general, the hands and feet being the last to peel. The process of this "pinhole" formation is somewhat as follows:—

A tiny dome appears on the skin, and the top quickly becomes rubbed off, leaving a hollow truncated cone of fine epithelium. The sides of this cone are soon demolished, and the circular base, spreading in all directions, fuses with its neighbours, and so the typical "pinhole" process becomes superseded by a more general desquamation.

Each tiny dome will be found to represent the epithelial covering of one of the puncta forming the rash, and when its top becomes rubbed off it bears a striking resemblance to the puncture made by a pin when viewed from the reverse side. Hence the term "pinhole."

In young subjects, in those whose skins are very fine in texture, and in cases where the rash has been but poorly marked, desquamation may only be represented by a fine powdering, and the true "pinhole" peeling may be entirely absent.

Primary desquamation is usually over in from five to seven weeks from the onset of the disease, but sometimes the process takes much longer before being completed on the soles of the feet. After true peeling is over one very frequently notices some roughness of the skin, and tiny flakes of epithelium may become detached. This is known as secondary peeling, but it is not infectious, and is of no clinical significance. On the hands and feet the skin is often shed in strips and patches of considerable dimensions.

Pulse.—The most striking feature of the pulse is its undue rapidity when compared with the degree of fever. Pulse-rates of 140 to 160 are common enough in association with a temperature of 101° to 102° , and need not give rise to anxiety. This phenomenon is a very important aid to diagnosis, but it should be remembered that it is only observed during the early stages of the fever.

Temperature.—The temperature curve in scarlet fever

DIAGNOSIS — Afebrile Scarlatina.

Jan.

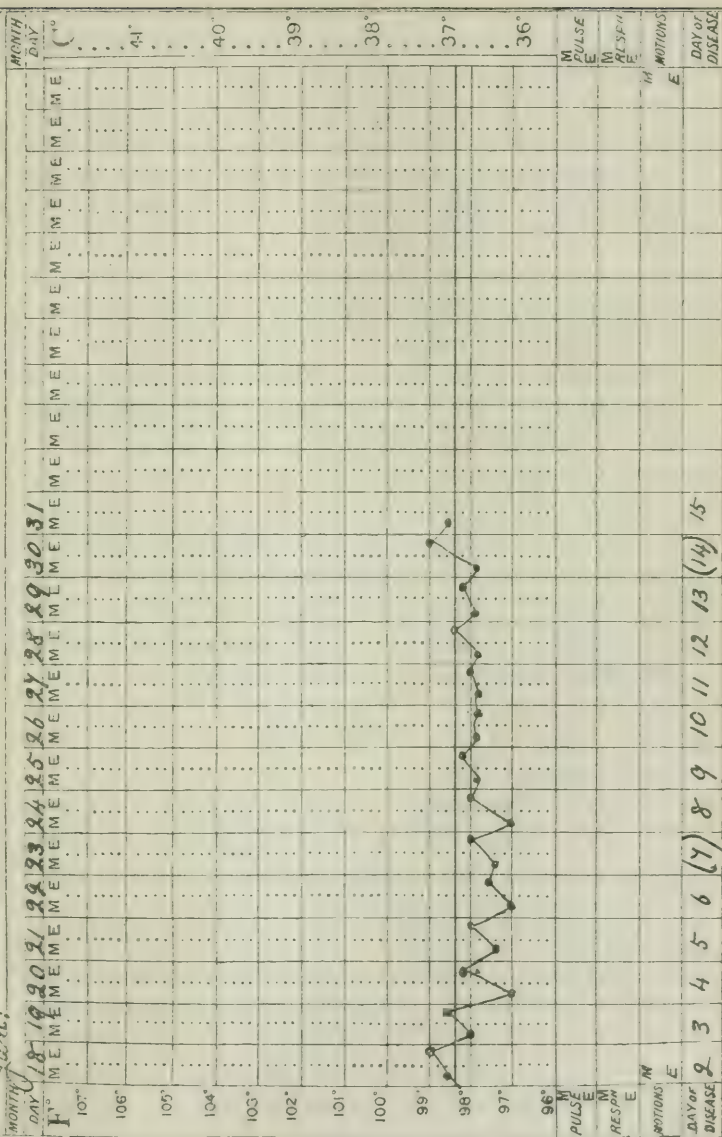


Chart No. 1.

shows more variability in type than that of many other diseases, and for this reason it is difficult to fix on any given chart as characteristic.

There seems to me to be a tendency on the part of American and Continental authors to state the temperature of what may be considered to be a case of average severity too highly. Certainly their figures are beyond those reached by a large percentage of the series now under consideration.

Appended are three examples of curves which I have found to be very frequent in uncomplicated cases. No. 1 is that of a very mild case. The patient, a boy aged six, was admitted with a typical attack, but, with the exception of a temporary rise at the onset, the disease ran an afebrile course.

No. 2 may perhaps claim to be the most typical. The abrupt rise with the onset, culminating about the third or fourth day, the fall by lysis, and the continuance of the temperature at subnormal, form a curve of very frequent occurrence. It should be noted that this phenomenon of subnormal temperature is most common, and may continue for weeks.

No. 3 shows a more abrupt fall of temperature, which is not infrequent.

Fauces.—The extent to which the fauces are involved varies within wide limits, from a mild degree of injection limited to the tonsils and adjacent pillars, to the most severe inflammation resembling a quinsy.

In a moderately severe attack the fauces and soft palate are swollen and injected, and present the punctate appearance of the skin rash. The tonsils are enlarged, and may exhibit a follicular tonsillitis, or the surface may be covered with a grey exudate resembling the true membrane of diphtheria. A stomatitis of varying degree is not infrequent, and may prove to be a troublesome complication.

For diagnostic purposes, then, it will be seen that the sequence of events in a case of simple scarlet fever may

DIAGNOSIS.—Scarlatina (defervescence by lysis)

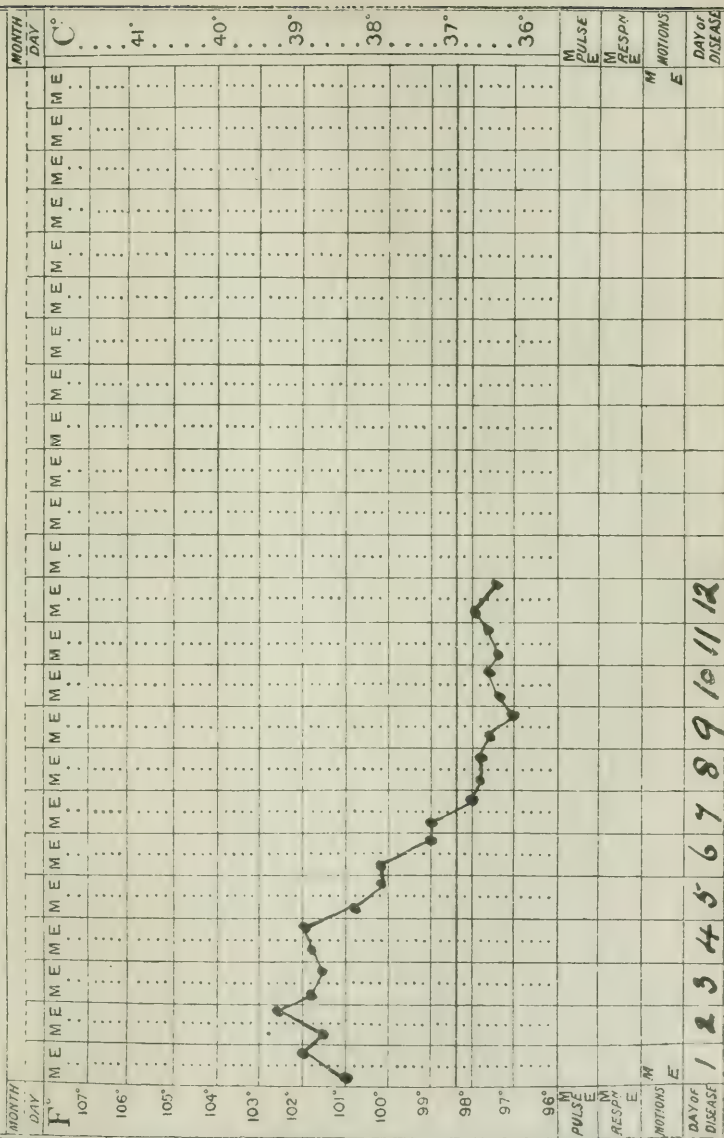


Chart No. 2.

be divided into three clinical stages, each presenting its special phenomenon, by the aid of which a correct diagnosis may be formed.

First stage begins with the initial symptoms and ends with the disappearance of the rash.

This is the period during which a diagnosis is most readily made. The combination of headache, vomiting, sore throat at the onset is very suggestive. The rapid pulse is a very reliable sign, and is observed even in those cases of mild infection already referred to. In addition, the presence of swollen and injected fauces, tender or enlarged glands, the characteristic rash, and a furred tongue gradually going on to the "raspberry" condition, seldom leave little doubt as to the cause.

Second stage, from the disappearance of the rash to the commencement of desquamation.

This stage may be non-existent, as desquamation may set in before the rash has faded. In cases where this does not obtain, and where advice has not been sought until after the disappearance of the rash, the diagnosis may be extremely difficult.

The following are the points to be looked for in such an emergency:—

1. The peeled condition of the tongue, which has not yet had time to renew its epithelium.
2. The appearance of the fauces which, if invasion has been at all severe, will still show some degree of injection.
3. Roughness and dryness of the skin, which is not infrequently of a dirty, yellowish colour.
4. The presence of enlarged and injected papillæ in certain situations already mentioned—*e.g.*, on the legs, outer side of thighs, and posterior surface of arms.
5. The existence of enlarged and tender glands at the angles of the jaw.

Third stage comprises the period of desquamation. The occurrence of desquamation *per se* is no criterion. More or less exfoliation is liable to occur whenever there has been a severe hyperæmia of the skin. It is seen very con-

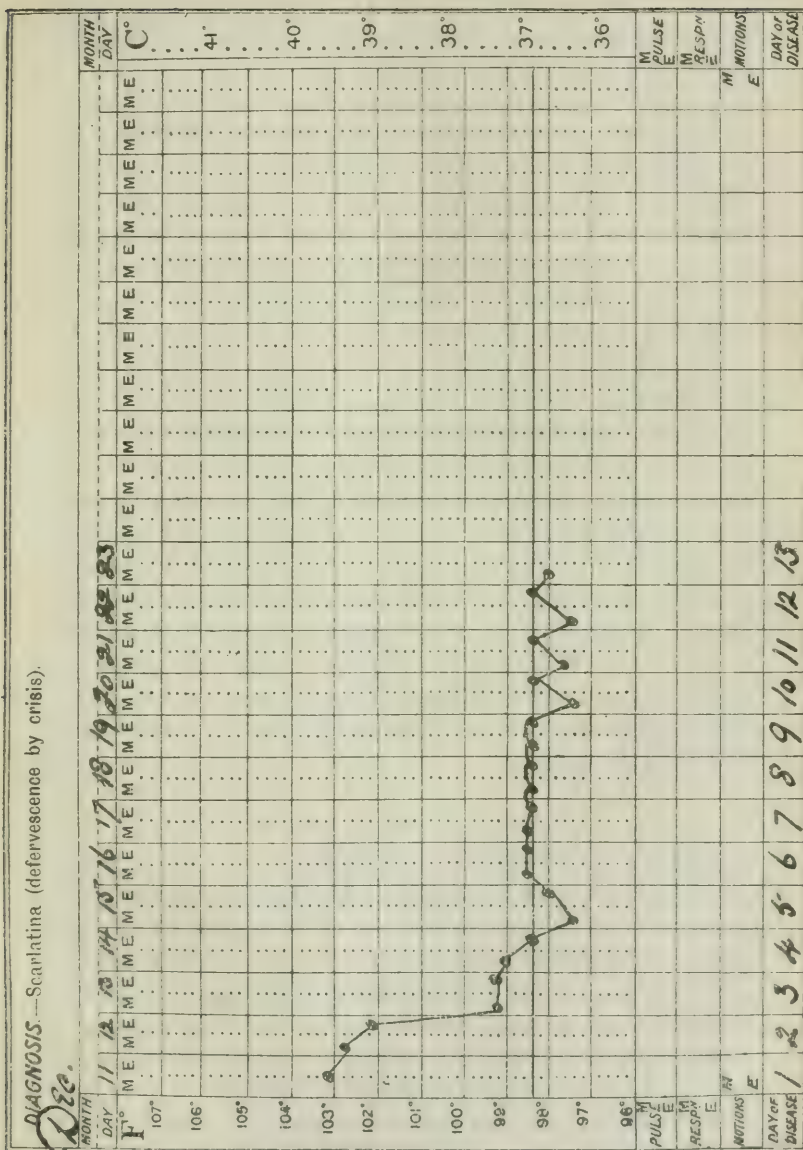


Chart No. 3.

stantly after measles, in certain skin diseases, after some drug eruptions, and I have seen it take place after an enema rash.

In scarlet fever, however, peeling of the "pinhole" type is such a constant phenomenon and so distinctive that one is, I think, justified in ascribing to the toxin of scarlet fever a special and selective action on the skin which, in addition to the more general factor of hyperæmia, determines this peculiar form of desquamation.

Further evidence to be sought for at this stage in suspected cases is the presence of one or more of the commoner complications—*e.g.*, otorrhœa, simple albuminuria, cervical adenitis, or acute nephritis.

So impressed have I been with the frequency and importance of these complications that I think it would be well for every physician, when called on primarily to treat one of these conditions, to make a thorough examination for evidence of desquamation. Such a search will sometimes be rewarded by the all-important discovery that the *fons et origo mali* is not explained by a hypothetical "chill," but is in reality identical with the toxin of scarlet fever. From the prophylactic point of view it is unnecessary to dwell on the importance of establishing this ætiological point.

SEPTIC SCARLET FEVER.

This is a condition of much more serious import, inasmuch as the peculiar dangers of the scarlet fever toxin are reinforced by the occurrence of septicæmia. A culture taken from the fauces of one of these cases invariably shows the presence of the *Staphylococcus pyogenes*, besides numerous cocci, streptococci, &c., and the patient's gravest symptoms are occasioned by a secondary infection with the former organism, which gains a ready access to the system through the ulcerated fauces.

A case may afford evidence of its septic nature from the very onset; but, on the other hand, secondary invasion may be delayed for some days, and just as the

severity of the initial symptoms is growing less, and convalescence is almost in sight, the temperature rapidly mounts up again, and the patient quickly assumes the picture of septic scarlet fever.

The disease is well marked clinically. On examination one is struck by the intense dusky rash, sometimes extending over the entire body and limbs, sometimes only appearing in patches. Such a rash is often hæmorrhagic, and in appearance not infrequently bears a closer resemblance to the macular eruption of measles than to the punctate erythema of scarlet fever.

Early in the disease the glands become much swollen and extremely tender, and these, with the superadded cellulitis, produce an appearance resembling bull-neck. There is a profuse rhinorrhœa, usually muco-purulent, but sometimes of a thin and watery type giving rise to troublesome excoriation of the nares and upper lip. Sores form at the angles of the mouth: the lips are dry, fissured, and covered with sordes: the eyes are suffused, and this, in conjunction with a rash of the morbilliform type, may give rise to a suspicion of measles.

This point, however, will be decided by an examination of the buccal mucous membrane for Koplik's spots. The absence of this important sign is strongly against a diagnosis of measles.

The tongue in septic scarlet fever peels as in the simple variety. It may then become thickly coated with a secondary deposit of creamy fur, or, as more commonly happens, it retains its raw, red appearance, and becomes dry and glazed. Ulcers may form on its surface as part of a general ulcerative stomatitis.

The throat exhibits an intense degree of inflammation. The pillars of the fauces, uvula, and soft palate are much swollen and greatly injected, giving rise to a profuse muco-purulent discharge, which is a source of the greatest discomfort to the patient. The tonsils are enlarged, meeting perhaps in the middle line, and presenting either areas of ulceration or patches of a grey, fibrinous exudate.

The temperature, instead of declining about the fourth or fifth day, remains high, and quickly assumes the septic type. Diarrhœa with offensive stools is fairly common.

In those who recover a general amelioration of affairs now takes place. The temperature falls gradually and convalescence sets in.

In fatal cases, however, the patient's condition becomes daily more pitiable. The discharges from throat and nose increase. Ulceration about the fauces may reach an extreme grade, leading to perforation or destruction of the soft palate, sloughing of the tonsils, pillars, &c. Putrefactive organisms are often present at this stage, and the fœtor is extreme.

Suppuration in the glands of the neck is invariable, and may be followed by extensive necrosis of the surrounding tissues. One of the large vessels may be opened up, and a fatal hæmorrhage ensue. The pulse is feeble, irregular, and very rapid. There is great restlessness and delirium, and the patient will probably refuse all food owing to the pain caused by deglutition. Sleep is almost impossible on account of the constant irritation of the larynx set up by the discharges trickling back from the ulcerated fauces. Respiration is laboured, and the obstruction may be so great as to require tracheotomy for its relief.

The appearance of a septic rash in these cases bears with it a bad prognosis. The eruption may be of various kinds, but the morbilliform type is perhaps the commonest. It usually makes its appearance first at the points of pressure—*e.g.*, over the elbows, scapulæ, buttocks, and hips. It is well marked and varies in extent.

A pyæmic condition sometimes supervenes, with abscess formation in the joints, muscles, within the pleural sac, and elsewhere. Should more than one joint be involved, the prognosis becomes most serious. Towards the end, coma supervenes, and death quickly follows from exhaustion.

TOXIC SCARLET FEVER.

This classification is designed to group together those cases in which a fatal issue is the direct result of an overpowering and lethal dose of the scarlet fever toxin *per se*, and does not include those cases in which life is endangered or destroyed by the onset of a secondary infection.

In more general terms it may also be said to include those cases which, from the very onset of the fever, show signs of a profound toxæmia, without evidence of a secondary infection, and which do not invariably terminate with the death of the patient.

In fulminating attacks, the usual signs of the fever, not having had time to develop to their full intensity, appear modified out of all proportion to the obvious seriousness of the patient's condition, and death takes place within forty-eight hours. The fauces may be but slightly injected and the rash poorly developed. Pyrexia of 106° or more is usual, but instances of a sub-normal temperature throughout are on record. The pulse is weak and running, and the patient quickly lapses into a condition of profound nervous exhaustion, ending in death.

These cases are, fortunately, of extreme rarity. Two occurred in this series of 1,005.

A modified form of the above is less uncommon, and a small percentage of those attacked tide over the illness; but much more frequently a fatal issue results in from five to six days.

In these cases there is time for the development of well-marked signs. The rash is intense, and may be generalised or in patches. The fauces, soft palate, and mucous membrane of the mouth are vividly injected. There is little, if any, swelling of tonsils or fauces, and no evidence of suppuration. Adenitis and rhinorrhœa are rare. Vomiting is usually severe, and the pulse-rate and temperature high. Delirium is frequent, and muscular tremor often pronounced.

The patient gives the appearance of a profound toxæmia, and, worn out with restlessness, vomiting, and want of sleep, grows slowly more exhausted, until death ends the scene. Consciousness may or may not be retained to the last.

Seldom does one realise so fully the inefficiency of medical science to cope with certain critical conditions as when brought face to face with one of these toxic cases. Drugs are valueless. Not only is the physician powerless to counteract the overwhelming poison, but even the means at his disposal for rendering assistance in the short-lived struggle are few and ineffective.

Much may reasonably be expected from a serum treatment similar to the use of Behring's antitoxin in diphtheria; but the first step in this direction has yet to be accomplished, for though many observers claim to have isolated the organism of scarlet fever, the verdict of the medical world is still "Not proven."

ART. XIII. *Two Unusual Cases.* By R. ATKINSON STONEY, F.R.C.S.I.: Surgeon, Royal City of Dublin Hospital.

THE following two cases, which were recently under my care in the Royal City of Dublin Hospital, are, I think, of sufficient interest to be worth recording:—

CASE I.—A man, aged forty-four, was admitted to the hospital on Tuesday, Sept. 3, 1907, with a history that he had fallen on the back of his head in the street while drunk the previous Saturday evening. Though he seemed none the worse of the fall at the time, on Sunday evening he began to get drowsy and stupid, and on Monday he was worse. On admission the patient was dazed and stupid, and could not speak properly; he would commence to answer a question, but after the first few words began to ramble and talk nonsense. The pupils were equal, and retracted to light; the pulse 65, and temperature 99°. He was very restless. There was no mark of recent injury on the head. He complained of pain in the right occipital region. The reflexes were normal. On Thursday the patient seemed better, and was able to speak

more distinctly. He continued to improve, but remained very restless, and was constantly trying to get out of bed, till Tuesday 10th, when he began to get drowsy and stupid again. On Wednesday his condition was worse, and on Thursday morning he was quite unconscious; his pulse was over 100, colour somewhat blue, pupils equal and very sluggish. In the middle of the day his pupils were very small, equal, and not reacting to light, and his pulse had risen to over 120, and was very weak. He was very restless, constantly moving all his limbs; his kneejerks were absent, and Babinski's sign was present on both sides. He was observed to twitch his right arm once. A lumbar puncture was made, and a test-tube full of clear fluid was withdrawn; the patient seemed slightly relieved for about half an hour, and then he appeared to be getting worse. He was brought to the theatre and a large disc of bone removed with a trephine from the region of the left parietal eminence. The dura mater bulged into the wound, was dark blue, and did not pulsate; on opening it a thin layer of clotted blood was found on the surface of the brain; the opening was enlarged in all directions, and over two ounces of clotted and dark fluid blood were scooped out. No bleeding point could be discovered, or any laceration of the brain or fracture of the skull, although the parts were examined by the finger to the falx cerebri above, the orbital plate of the frontal bone in front, and the upper surface of the petrous bone below. A rubber tube was passed down to the petrous bone inside the dura mater, and a couple of small pieces of gauze were inserted between the dura and the brain and brought out through the skin incision, which was sutured throughout the greater part of its extent. At the end of the operation the pupils were larger and were reacting, and the brain exposed in the wound was pulsating, though somewhat feebly. The pulse was bad, but improved after an infusion of three and a half pints of normal saline. In the evening the patient was somewhat better, and was able to swallow a few mouthfuls of milk with some difficulty.

On the next day (Friday) the pupils were reacting, the kneejerks were still absent, the plantar reflexes were normal, the pulse varied from 100-120, and there was complete paralysis of the right arm.

On Saturday morning the patient's condition was very bad, and at 1 30 p.m. the pulse was 140, and very weak, and his colour was bad. On removing the dressings the flap was seen to

be very prominent and not pulsating; the stitches were taken out, and on lifting down the flap no clot was found under it, but the brain was prominent, and did not pulsate, and the vessels on its surface were congested and very dark in colour. A needle was passed into the brain for about two inches, and a test-tube full of clear fluid under considerable tension was withdrawn. After this the brain receded somewhat and pulsated feebly. The eyes reacted better, and the pulse and colour improved. When dressed the next day the flap was not so prominent; the patient was conscious, and recognised his wife and brother. From this on he gradually improved, and began to use the right hand on the following Tuesday, and by Sunday he was able to use the right arm well. The patient was discharged from hospital on Oct. 9 quite recovered, except for the fact that he still had some slight difficulty in pronouncing some words, and though able to write and recognise objects, he had completely lost his power of reading.^a

Remarks.—This case presented great difficulties of diagnosis, and the symptoms were certainly not those given in all the text-books as typical of intra-meningeal hæmorrhage. It is possible that the late unconsciousness commencing on the Wednesday (the eleventh day after the accident) may have been due not to the hæmorrhage but to a spreading œdema of the brain, which was relieved by the extensive removal of bone at the operation. The return of bad symptoms after the operation was probably due to an accumulation of fluid in the lateral ventricle. The temporary paralysis of the right upper extremity is best explained by supposing that an œdema of the arm centre occurred from the sudden relief of pressure on this part of the brain. Though the localising symptoms were not at all well marked, still it was evident that unless pressure was relieved immediately the case must have a fatal termination in a few hours at most, so that operation was urgently

* At the present time (March 20th, 1908), the patient appears to be in perfect health, though he still has some difficulty in pronouncing some words: he is just beginning to recover his power of reading, though the improvement in this respect is still very slight.

demanded. This case shows well that one should never despair of a head injury, no matter how bad the condition of the patient may appear.

CASE II.—A woman, aged fifty-seven, was admitted to the Royal City of Dublin Hospital on Thursday, Dec. 5, 1907, complaining of severe pain in the abdomen since the previous Sunday. She had vomited a couple of times since the commencement of the attack, and still felt inclined to vomit. She had obstinate constipation from Sunday till Wednesday night, when her bowels were moved several times after taking an aperient, but they had not been moved since. The patient had had a somewhat similar attack about twelve months before, but it had only lasted for two or three days. On Friday evening I was asked to see the patient by my colleague, Dr. Moorhead. The abdomen was very distended and resonant all over, the muscles were not rigid, and moved with respiration; there was general tenderness, which was specially marked over the lower part of the abdomen, close to the middle line. Nothing definite in the form of a tumour could be felt. The pulse was 84, and of good volume; the respirations were 28; the temperature was normal; and the patient did not look very ill. Rectal and vaginal examination were negative. The patient complained a good deal of colicky pain. Both castor oil and an enema had been given without effect. A hypodermic of a sixth of a grain of morphin was given on the distinct understanding that if the bowels had not acted freely and the local condition of the abdomen greatly improved by the morning the patient should be submitted to operation. A turpentine enema was ordered. The next morning the patient had slept for six hours, and was quite free from pain, and expressed herself as feeling much better, but the enema had been returned merely stained with faeces, and the pulse was 96, and not nearly so good in quality as on the previous evening. The abdomen was not quite so distended as before, and the patient said she had got rid of a large quantity of wind by the mouth, but none had been passed by the bowel. The patient was taken to the theatre and an incision made in the middle line below the umbilicus. On opening the peritoneum a small quantity of serous fluid escaped, but there was no free gas or unpleasant smell. On passing two fingers into the abdominal cavity several distended coils of intestines were felt massed together immediately under

the incision ; this was enlarged, and it was then seen that there were a number of coils of distended small intestine constricted by a band about the thickness of a finger, which lay transversely in the abdomen. When traced to the right this band joined the cæcum, and when traced towards the left it was found to pass behind the distended coils, and apparently became continuous with the small intestine. It was impossible at first to say whether it was an appendix, a Meckel's diverticulum, or the lower end of the ileum with the coils of small intestine passed through a hole in the mesentery behind it. An attempt was made to reduce the coils, but this was impossible. It was then seen that the coils were twisted on themselves clockwise for half a turn. This twist, or volvulus, was reduced, and it was then found quite easy to withdraw the coils of small intestine (about three feet in length) from under the band. This band proved to be the appendix, about five inches in length, adherent by its tip to the ileum, seven or eight inches from the ileo-cæcal junction. Where the tip was adherent to the gut the appendix was greatly enlarged, forming a conical mass attached to half the circumference of the bowel and the adjoining mesentery. The appendix was amputated in the usual manner from the cæcum, and its distal extremity was then separated from the small intestine ; in doing this a cavity containing some thick mucus was opened. After the removal of the appendix there was a thickened area on the wall of the intestine with a raw surface ; this was invaginated with a few Lembert sutures without obstructing the lumen of the gut to any great extent. The abdomen was then closed, and the patient returned to bed. The patient complained of pain in the abdomen and flatulency after the operation, but on the Monday following, after repeated small doses of calomel and sulphate of sodium, she had a large fluid motion, and passed flatus several times. After this the patient improved rapidly ; the stitches were removed on the tenth day, and except for some constipation, accompanied by flatulency and pain about a fortnight after operation, she made an uninterrupted recovery, and was discharged from the hospital on January 15, the bowels moving daily without medicine.

Remarks.—In spite of the apparent improvement in the patient on the Saturday morning, I felt fully justified in urging immediate operation, owing to the fact that

though the patient had slept most of the night after the morphin injection the pulse was distinctly not so good as it had been, and also, though the abdomen was not so distended, no flatus had been passed by the bowel, and the enema had failed to bring away more than a mere trace of fæces. The apparent improvement in the general condition in this case shows the great care that should be exercised in the use of morphin in abdominal cases, unless those in charge of the case have already decided on the necessity of operation; but under these circumstances it is not only justifiable, but often advantageous, in relieving pain and procuring sleep. The combination of obstruction under an adherent appendix and volvulus of the obstructed coils must, I think, be a very rare condition.

SANTONIN IN DIABETES MELLITUS.

THE treatment of diabetes in private practice is often one of the most difficult problems that the practitioner has to face, and all indications that can be of help will merit careful attention. The value of opium and its derivatives in the treatment of glycosuria is too well known to need comment, but in many cases it is found that these excellent drugs hardly affect a particular patient under observation. One of the latest substitutes for the opium treatment is santonin, which Journet has recently investigated. This author states that under the santonin treatment the results are in many cases quite astonishing. The patient's strength is increased, the polyuria is lessened, the thirst and dryness of the mouth are bettered, and the glycosuria rapidly diminishes. The drug is prescribed in powder or pill form, and in somewhat large doses, three to six grains (three to six lozenges of the pharmacopœial preparation) being given thrice daily. The patient is watched carefully, and the drug is stopped after two days, being resumed at the end of a similar period.—*The Hospital*, February 29, 1908. [The Editors would emphasise the words "watched carefully" in the above paragraph, as santonin is by no means an inert drug, and collapse-symptoms have sometimes followed its exhibition in full doses.]

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Guide to the Administration of Ethyl Chloride. By G. A. H. BARTON, M.D., Anæsthetist to the North-West London Hospital. Second Edition. London: H. K. Lewis. 1907. 8vo. Pp. 54.

THE appearance of a second edition of this short monograph within two years of the first edition goes far to demonstrate not only the popularity of ethyl chloride as an anæsthetic, but also the value of Dr. Barton's guidance to its administration. It is only since the beginning of the present century that the drug has come into general use in England, but it has rapidly grown in favour, so much so that two years ago one firm of manufacturers stated that they had sold sufficient ethyl chloride for 1,500,000 administrations of 5 cc. each. The popularity of the drug as an anæsthetic agent was rapid and widespread, and there were not a few who claimed that in it had at last been discovered the ideal anæsthetic at once both rapid in action and free from danger. This exaggerated claim is now giving place to a more rational estimation of its value, and its sphere and the limits of its usefulness are becoming more clearly defined. We believe we shall not be contradicted when we say that in this definition the work of Dr. Barton holds a distinguished place.

In regard to the safety of chloride of ethyl we are quite in agreement with Dr. Barton that as yet reliable statistics are not available to settle the question; but we do not consider that any comparison of it from this point of view with such drugs as ether and chloroform can serve any useful purpose. The sphere of usefulness in the two cases is absolutely different, and any comparison of the

one with the other is most fallacious. Nitrous oxide and chloride of ethyl may be usefully compared as regards safety, and between the two there is no doubt as to which is the safer. This is a matter of considerable importance, and gives point to Dr. Barton's remark that "in dental work ethyl chloride should hardly ever be used."

The method of prolonging anæsthesia by the administration of ethyl chloride through a nose or mouth tube, which Dr. Barton has devised, and of which he gave an account in the former edition of his book, has been developed considerably, and seems to have justified its title to a really safe and useful method. We feel bound to confess, however, that there still lingers with us a doubt as to the advisableness of administering the drug for any lengthened period with a patient in the upright position. At the same time we must admit that Dr. Barton's results give no grounds to substantiate this fear of danger. We are quite in accord with the statement that in the ethyl chloride-ether sequence the drug has a great sphere of usefulness. This method of inducing anæsthesia has many advantages over the nitrous oxide-ether sequence which is so commonly used in this country. The necessary apparatus is much more portable, and, in the case of children, a very much more satisfactory period of induction can be obtained by the ethyl chloride than by nitrous oxide. As a routine practice the most excellent results can be obtained by both methods. In our experience we have found that the ethyl chloride has great superiority in portability, and perhaps a slight superiority in rapidity; but the nitrous oxide has some superiority from the point of view of the comfort of the patient. We would most strongly urge anyone who intends to adopt the former method to study the directions given by Dr. Barton, for, undoubtedly satisfactory results will not be obtained if such directions are not followed out. We are not at all so satisfied with the advocacy of the chloride of ethyl-chloroform sequence, and we doubt very much if this method deserves the recommendations given to it. Dr. Barton's guide of the persistence of jaw-spasm as being a signal of safety may be very good in the majority of

cases, but it may also be a danger signal, and we think it unwise to recommend the administration of chloroform in unmeasured doses under such conditions. We quite admit, however, that in this matter we may be prejudiced by our partiality for the use of a regulating inhaler whenever possible in the administration of chloroform.

In conclusion, we heartily recommend a careful perusal of this book to everyone who proposes to use chloride of ethyl, or, indeed, who proposes to use any anæsthetic, and we do so with the more confidence because we believe that its teaching on the subject with which it deals is much more satisfactory and complete than that to be found at present in the larger text-books on anæsthetics.

T. P. C. K.

Principles and Practice of Modern Otology. By JOHN F. BARNHILL, M.D., and ERNEST DE WOLFE WALES, B.S., M.D. Philadelphia and London: W. B. Saunders & Co. 1907.

For some considerable time the reviewing of works on otology has been an uninteresting task. Little that is really new has been incorporated in the text-books, and most of the fresh matter has been found in periodicals. It would almost seem as if some of the writers on otology avoided the latest opinions on the subject.

However, at last we are face to face with a really fresh effort from start to finish; no old models are taken, and the groundwork is fresh and interesting. The arrangement of the subject-matter does not differ essentially from that of other similar works, as we have good chapters on anatomy, physiology, and the rest of the book is well divided according to the usual classifications.

Naturally, suppurative affections of the ear occupy a large space, and the operations for the relief of their various forms and complications are fully set out—such as, for instance, tying the internal jugular vein. A new chapter is inserted dealing with the life insurance aspect of running ears, and although for many a day all the companies have included questions in their medical re-

ports about ear discharges, the subject has not been fully dealt with hitherto in otological text-books.

There are also two chapters dealing with syphilis of the labyrinth and deaf mutism, subjects which are not usually found in other like works.

The above remarks shortly explain the scope of the book. We must also award our meed of praise to the very excellent diagrams and drawings which illustrate the book, and practically all of which are done specially for this work, including those in the anatomical section, where all are so good that it is hard to pick out for approval one more than another.

In conclusion, we can best describe the work as a first-class text-book, untrammelled in its arrangements, free from the old wood-cuts, out-of-date instruments, and long since disused methods, and thoroughly up-to-date in every respect. Even the most learned specialist might do well to spend an hour or two in its perusal.

Light and X-ray Treatment of Skin Diseases. By SIR MALCOLM MORRIS, F.R.C.S. Ed., Dermatologist to King Edward the Seventh's Hospital for Officers, Surgeon to the Skin Department of the Seamen's Hospital, Consulting Surgeon to the Skin Department of St. Mary's Hospital; and S. ERNEST DORE, M.D. Cantab., Assistant in the Skin Department of the Middlesex Hospital. London, Paris, and New York: Cassell & Co., Ltd. 1907. Pp. xii + 172.

THIS little book will be found of undoubted usefulness to those who are in the position to treat skin diseases by light, X-rays, and electricity. It describes these methods and the precautions necessary in using them, and enables the reader to form a good idea of the variety of treatment which is likely to give the best results in any particular case.

The authors—Sir Malcolm Morris and Dr. Dore—deal with the subject in a clear and comprehensive manner. But the work, though it contains a great deal of sound

information, is not intended to be an exhaustive monograph on the subject.

"Light and X-ray Treatment of Skin Diseases" is divided into eleven chapters. The first four are concerned with the principles, technique, and therapeutic effects of light, X-rays, radium, and high-frequency currents. Chapters V. and VI. discuss the treatment of lupus vulgaris, and contain the details of several cases. These details serve very well to illustrate the advantages and difficulties in the various methods employed to bring about a cure. The next three chapters are devoted to lupus erythematosus, rodent ulcer, and other new growths. Chapter X. is an important one dealing with the treatment of ringworm. In it Sabouraud's methods and results are adequately considered. The treatment of acne, favus, &c., occupies the last chapter.

The book contains twelve plates. Three of these illustrate apparatus; the remainder are from photographs of patients taken before and after treatment. The latter are, unfortunately, not sufficiently well reproduced to show much detail.

In conclusion, we can recommend this work as giving a very just and unbiased account of the position of X-rays and allied phenomena in the treatment of skin disease.

Text-Book of Organic Chemistry for Medical Students.

By DR. G. v. BUNGE. Translated, with additions, by
R. H. ADERS PLIMMER, D.Sc. Longmans, Green &
Co. 1907. Pp. 260.

It has been computed that, roughly speaking, there are about 130,000 different organic chemical substances known at the present time. No human mind could grasp or retain in memory all of these, although our knowledge of them is, to a certain extent, co-ordinated and classified by general relationships which exist between them. Luckily, so far as medicine is concerned, we have to deal with but a small number out of the crowd, and even then

it is not an easy matter to comprehend their nature and affinities, and to understand their connection with the metabolic processes of the body.

In common with other teachers, Bunge realises that the majority of medical students are not in the position to assimilate even the most important results deducible from our present text-books on organic chemistry. He has, therefore, stepped into the gap, and has endeavoured to present the matter in such form that the beginner will not be wearied, and his interest will be secured by selecting only those special subjects which come within his sphere of work.

Nothing could be better or more lucid than Dr. Bunge's literary style, and we have only one adverse criticism to make.

For those who already have an elementary knowledge of organic chemistry Bunge's work is inimitable, and it is by far the most attractive compendium of the fundamentals of organic physiological chemistry which has yet appeared. From want of space there is, however, a certain lack of explanation and definition of terms, and we do not think that even an intelligent and industrious student could fully benefit by the present work without the help of a teacher, or without some preliminary and collateral knowledge of systematic organic chemistry.

The matter of the text is excellent and accurate, and the translation is admirably rendered into good English by Dr. Plimmer, who has made some important and useful additions to the text.

After a brief historical sketch the contents of the book are distributed under these headings:—

Hydrocarbons, methane, ethane, propane, and butane, with their homologues and isomers; glycerol and the fats, carbohydrates, glucosides, cyanogen compounds, urea and its derivatives, aromatic compounds, benzene and its homologues, aromatic N-compounds, poly-benzenes—*e.g.*, naphthalene, anthracene, &c.—volatile oils, alkaloids, proteins.

Under proteins Dr. Plimmer gives a serviceable summary of the nomenclature as recommended by the

Chemical and Physiological Societies of Great Britain, and, in the interests of uniformity, it is to be hoped that this classification will be adopted by writers of text-books.

At page 99 we are surprised to find *margaric acid* figuring in the series of fatty acids, as we believed that chemists long ago recognised that it is merely a mixture of palmitic and stearic acids.

We strongly recommend every one of our readers who has the smallest desire to post himself in the elements of modern organic chemistry to purchase and study this charming book, which cannot fail to vivify and stimulate his interest in chemical physiology.

Studies in Blood-pressure: Physiological and Clinical.

By GEORGE OLIVER, M.D. Lond., F.R.C.P. Second Edition. London: H. K. Lewis. 1908. Cr. 8vo. Pp. xii + 255.

IN its second edition Dr. Oliver's little book has undergone entire rearrangement. The first edition was in the form of two lectures on the physiological and clinical aspects of hæmomanometry. The book is now more systematically divided into seven chapters, and contains a good deal of new material, especially on the matter of treatment of supernormal and subnormal pressures, to which two chapters are devoted.

The book, however, still remains the embodiment of the author's own observation and experiments, and bears the hall-mark that only first-hand knowledge gives. The new matter is of much clinical importance, while the clear and detailed manner in which the methods of observation are related render the volume invaluable to all who wish to make accurate clinical observations on blood-pressure.

It is often thought that the pendulum has swung too far since the times of our grandfathers, when venesection was an everyday procedure. Dr. Oliver seems to be of the same opinion, and suggests that in the hæmomano-meter we have a means of determining when venesection should be resorted to.

The methods described are simple, and the apparatus of

a type suited for rapid clinical employment. We have no doubt they should be more extensively used.

Metabolism and Practical Medicine. By CARL VON NOORDEN. III.—The Pathology of Metabolism. London: W. Heinemann. 1907.

VOLS. I. AND II. of this wonderful work have been already briefly noticed in this Journal, and attention was drawn to the encyclopædic mass of information which has been gathered together and critically sifted by expert authorities.

Vol. I. deals with the metabolism of normal physiology, and Vol. III. with the pathology of metabolism.

In the volume before us the subjects discussed are those of particular interest to the specialist and to the general practitioner, and they are accordingly considered in greater detail than was permissible in the preceding volumes.

Dr. Walker Hall has added a useful appendix, compiled by Katharine Williams, which gives a summary of the analysis and the calorific value of the commoner foods.

The value and importance of the topics discussed in this volume cannot be too highly estimated, and we have now an authoritative compendium of current knowledge upon all, or nearly all, subjects upon which pathological chemistry can be expected to throw light.

Dr. v. Noorden is solely responsible for the monographs on diabetes mellitus, gout, and obesity. Salomon is associated with him in the article on diseases of the skin, and Dapper in that on mineral waters and metabolism.

Admirable monographs appear from the pen of Carl Neuberg on the rarer derangements of carbohydrate and of protein metabolism, and on oxaluria and phosphaturia.

Schmidt discourses on cancer, Czerny and Steinitz on children's diseases, Matthes on baths and metabolism, Magnus-Levy on ductless glands, Loewi on drugs and poisons, Salomon on the influence of light upon metabolism, including radium and Röntgen-rays, and Mohr on nervous and mental diseases, and on diabetes insipidus.

From this rich bill of fare it will be seen that the entire work should be in every medical library, for it is absolutely indispensable for reference, and is crammed with valuable and suggestive information.

The Dublin University Calendar for the Year 1907-1908.

Vol II. Dublin: Hodges, Figgis & Co. 1908. Svo.

Pp. iv + 349.

THIS volume of the "University Calendar" for the current year contains the usual lists of honours and prizes, of degrees conferred during the academic year, and of awards in the various professional schools.

The total numerical strength of Trinity College under the degree of M.A. in 1908 is given at page 119. The figures are these:—Women—Non-foundation Scholars, 4; Pensioners, 238; Sizar, 1. Men—Scholars of the House, 69; Pensioners, 893; Sizars and ex-Sizars, 36. Total, 1,241. This number does not include the names of students in the Medical School or Law School who have not paid the last half-yearly Arts' fee. The *Senatus Academicus* numbers 459. On the roll of Parliamentary Electors of the University of Dublin, 4,863 names appear. The owners of these names are not, however, all alive; and this list needs more careful revision in the matter of addresses as well as in respect to the names.

The printing of the volume is excellent, and, considering the number of names, is wonderfully accurate.

Obstetrics: a Text-book for the Use of Students and Practitioners. By J. WHITRIDGE WILLIAMS, Professor of Obstetrics, Johns Hopkins University; Obstetrician-in-Chief of Johns Hopkins Hospital, &c. Second enlarged and revised Edition. London: Sidney Appleton. 1908. Med. Svo. Pp. 978. 16 Plates and 666 Illustrations in the Text.

WE have always regarded Professor Whitridge Williams' book on obstetrics as the leading American work on the subject, and certainly the new edition gives

us no reason to alter that opinion. The principal changes are to be found in the chapters on the development of the ovum and on the toxæmias of pregnancy, which chapters have been entirely rewritten. Moreover, sections have been added upon the metabolism of normal pregnancy, vaginal Cæsarean section, pubiotomy, and contractions of the pelvic outlet. The entire book has also been thoroughly revised, and many illustrations have been added.

The chapters on the development of the ovum are particularly interesting, and furnish one of the clearest accounts of this difficult subject with which we are familiar.

The sections on obstetrical pathology are also especially excellent, and, particularly, we may mention those dealing with the pathology and bacteriology of puerperal infection.

There is an interesting description of pubiotomy, and we are glad to see that the author fully recognises the value of this useful operation. In describing it he speaks of "incising the periosteum," and, in another recent work, we notice that the author recommends the finger to be passed down between the periosteum and the bone as a preliminary to the introduction of the saw. We cannot quite appreciate the necessity for these directions, as, if the periosteum is left intact at first, it must either tear as the bones separate or else must keep the bones from separating. Further, the difficulty of passing a gloved finger between the periosteum and the bone seems to us to be insuperable.

The illustrations and general appearance of the book are extremely good, and indeed in every way it reflects the greatest credit on all concerned in its publication, but particularly on Dr. Whitridge Williams himself.

The Principles and Practice of Dermatology. By W. A. PUSEY, M.D. London: Sidney Appleton. 1907. Pp. 1021.

STILL another portly treatise on Dermatology from our American brethren to compete with the excellent works

previously published by Stelwagon, and by Hyde and Montgomery.

Dr. Pusey aims at making his work a reflex of current dermatological knowledge, while, at the same time, he does not hesitate to express the conclusions of his own judgment, even in the face of other and perhaps weightier opinions. He devotes more space than usual to the general principles of dermatology—viz., anatomy and physiology of the skin, general ætiology, pathology, and symptomatology and treatment. Over fifty pages are occupied in the discussion of the fundamental principles of treatment—internal and external—and a brief account is given of radio-therapy and of photo-therapy.

It is unnecessary to enter into a detailed notice of the volume, the contents of which are arranged, as usual, on the basis of Hebra's classification. In no important respect does it seem to us to be superior to works on dermatology already published, and some of the illustrations are of poor quality. It can be recommended as an accurate and satisfactory treatise worthy to rank beside any of its competitors.

The New Sydenham Society. Fasciculus XXV. of the Atlas of Clinical Medicine, Surgery, and Pathology. Diseases of Fallopian Tube, Ovary, Uterus, &c. Vol. CXCVII. Concluding the Series for 1907 (49th year). London: H. K. Lewis. 1907. Folio.

THERE are eight coloured plates in this Fasciculus of the New Sydenham Society's Atlas. They are beautifully executed, and illustrate in sequence tubercular disease of the Fallopian tubes, gonorrhœal pyosalpinx, hydrosalpinx, tubal abortion, hæmatosalpinx, multiple fibro-myomata of the uterus, hæmorrhagic carcinoma of the ovary, procidentia uteri, squamous-celled carcinoma of the labium, syphilis of the vulva and mouth, syphilis of the vulva and lips.

Dr. C. J. Cullingworth, Consulting Obstetric Physician to St. Thomas's Hospital, London, may be regarded as the author of this Fasciculus of the Atlas, for six out of the eight plates are from drawings lent by him for the purpose, and the

descriptive letterpress is from his "Diseases of the Fallopian Tubes" published in 1896, or from the "Transactions of the Obstetrical Society of London," to which he communicated the cases illustrated in the drawings. The remaining two plates are from drawings by Mr. Burgess, lent for the purpose by Dr. George E. Herman, Consulting Obstetric Physician to the London Hospital.

This Fasciculus will possess a special interest for all obstetricians and gynaecologists.

An Index of Treatment. By various writers. Edited by ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital; and by H. STANSFIELD COLLIER, F.R.C.S., Surgeon to St. Mary's Hospital. Bristol: J. Wright & Co. 1907.

THE Editors of this work are to be congratulated on the success with which their efforts have been attended in the production of a volume which will prove of inestimable value to the general practitioner, and on the manner in which they have been able to combine, into one uniform and compact whole, articles written by more than seventy different contributors. As they point out in their preface, care has been taken to avoid the enumeration of a large number of possible treatments, and these only have been described which, in the opinion of the respective writers, are considered the most effective. This method of selection has enabled the writers for the most part to give a tone of personal experience to their articles, and thereby renders each article of much greater value than any mere compilation could be. It has also resulted in the elimination of the large number of useless and unscientific therapeutic remedies which are daily described and supported by testimony more or less biased, while at the same time all those remedies, even the most modern, which rest on a scientific basis, have been included, and their *rationale* in many instances is discussed. The material has been arranged in alphabetical order, and a supplementary index has been added so as to facilitate handy reference. In addition, the treatment of various

important symptoms, such as headache, flatulence, and insomnia is described under those headings instead of under the diseases to which the symptoms belong—a method of which the practitioner will undoubtedly approve and find of the greatest convenience. Fifty illustrations have been included chiefly to explain methods of minor surgery described in the text and the application of various forms of apparatus. A few more of these would have proved useful, as, for example, diagrams of walking exercises and of the Schott-Nauheim exercises, but we feel sure that considerations of space alone led to the exclusion of these and many others that readily occur to the mind, and we think that on the whole the Editors have shown excellent judgment in their selection. Special attention is paid to the detailed description of physical remedies and to the indications for various drugs, and adequate information is given concerning the management of diseases which are usually regarded as specialties.

We strongly recommend every medical man to possess himself of this book without delay, and to consult it daily.

Guy's Hospital Reports. Vol. LXI. London: J. & A. Churchill.

VOLUME LXI. of the "Guy's Hospital Reports," edited by F. J. Steward and Herbert French, contains a number of interesting clinical and other articles which bear evidence of the large amount of valuable work which is being carried on both in the hospital itself and also in the associated medical school. Amongst the articles from the laboratories is to be found a series of most important studies by Bainbridge and Beddard on various questions associated with diabetes. These writers have found that secretin administered by the mouth has no effect on the glycosuria of diabetics, though the prosecretin of the duodenal mucous membrane was found to be much diminished in amount in four out of five patients who died from severe diabetes. The diastatic enzymes usually found in the liver and blood were present in those

diabetic tissues that were examined. Dr. Hertz reports at length on a case of chyluria occurring in England, and unassociated with the presence of filariæ. As a result of his studies he came to the conclusion that the actual admixture of chyle and urine took place in the bladder, the lymphatics of this viscus being greatly dilated and having a free anastomosis with the lymph channels of the mesentery. The actual cause of the chyluria was found to be a stricture of the thoracic duct situated a little above the level of the receptaculum. Hertz also gives an elaborate account of his observations on the passage of food along the human alimentary canal. The research was carried out largely by the aid of X-rays following the administration of meals containing bismuth, and has brought numerous new and interesting facts to light. The treatment of pneumothorax by aspiration is described by Fawcett, and some experiments on the general metabolism following excision of one kidney and the greater part of the second one are reported by Bainbridge and Beddard. These experiments throw a new light on Rose Bradford's researches, and seem to show that these latter must be interpreted in a sense different to that in which the author has done.

Enough has now been said to show the importance of this volume. We have read the greater part of it with much interest and profit, and advise all others to purchase and study it.

Essentials of Human Physiology. By D. NOËL PATON, M.D., B.Sc., F.R.C.P. Ed.; Professor of Physiology, University, Glasgow. Third Edition. Revised and Enlarged. Edinburgh and London: William Green & Sons. 1907. 8vo. Pp. xv + 477.

In the number of this Journal for December, 1905 (Vol. CXX., p. 447), we had the pleasure to call attention to the publication of the second edition of Dr. Noël Paton's excellent work on Human Physiology. The first edition had appeared in January, 1903.

The present (third) edition was published in October, 1907,

and in its pages the author has incorporated an account of certain important developments of physiological research which have taken place within the past two years.

In the first section of Part I. of the book, on Protoplasm, the author refers to the synthesis of the products of disintegration achieved by Emil Fischer and his co-workers. In the fourth section of the same Part he deals with the physiology of the neuro-muscular mechanism in the light of Sherrington's brilliant exposition of its mode of action. In the same section he gives a full account of Head's researches on the nature of the nervous mechanism connected with cutaneous sensibility—"protopathic" and "epicritic," terms introduced by Head, and which are explained and defined at pages 110 and 111.

Other points which have been revised in consequence of recent physiological inquiry relate to the controlling mechanism of respiration (page 316, *et seq.*), the estimation of the arterial blood pressure in man (page 283, *et seq.*), and the digestion and absorption of proteins in the alimentary canal (page 386, *et seq.*).

Dr. Paton's work is scholarly, and we can recommend it with confidence to both teachers and students.

The Combined Treatment in Diseases of the Eye. By G.

HERBERT BURNHAM, M.D. Toronto. London: H. K.

Lewis. Crown 8vo. Pp. viii + 92

"THE COMBINED TREATMENT" consists of subcutaneous injections of pilocarpin with the internal administration of mercury and iodide of potassium continued for a period of months or years in spells of from ten to twenty-one days. This method, he claims, is capable of curing or improving almost all the diseases of the eye, and probably of the rest of the body, though he has not tried it for any but eye diseases. He writes after sixteen years' experience of the method, and his confidence in the value of the treatment has increased year by year.

PART III.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.

General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF SURGERY.

President—SIR HENRY SWANZY, P.R.C.S.I.

Sectional Secretary—ALEXANDER BLAYNEY, F.R.C.S.I.

Friday, January 17, 1908.

MR. SETON PRINGLE in the Chair.

Grafting of Fibula to Tibia.

MR. R. ATKINSON STONEY read the notes of a case in which he had grafted the fibula to the tibia. Patient, a boy aged seven, was admitted to the Royal City of Dublin Hospital, November 26, 1905, suffering from acute osteomyelitis of tibia; he had been ill for ten days, and a huge abscess had formed involving the whole of leg from knee to ankle. The abscess was opened immediately, and the diaphysis of the tibia was found completely stripped of its periosteum. The necrosed tibia was removed by two operations, in January and April. By April, 1906, the sinuses had closed and an involucrum had formed in the lower and upper parts of the leg, but there was a gap of about one and a half inches between the two ends, due to destruction of the periosteum, as the result of the virulence of the original infection. An operation was performed, in which the neck of the fibula was cut across and the upper end of the lower fragment implanted into the upper end of the involucrum of the tibia. Firm union has now occurred, and the boy is able to run about without the aid of a stick, though there is considerable shortening, as the result of over a year's loss of growth while the illness lasted and the ends of the tibia were not in contact. The operation is a modification of one described by Hahn in 1885, and was suggested by a case reported by Professor E. E. Goldmann, of Freiburg, in the *Lancet* of January 13, 1906.

THE CHAIRMAN said the case was, so far as he knew, the first of the kind reported in Ireland, or at any rate shown at the Academy. He believed it was the only line of treatment which was likely in such a case to leave a useful limb.

MR. TAYLOR congratulated Mr. Stoney on the success of his operative procedure.

DR. STOKES asked if there was any tendency of the ankle to turn outwards.

MR. STONEY, in reply, said there was no tendency of the ankle to turn outwards. If anything, there might be a tendency to turn inwards, but such was hardly likely in the present case.

Post-Anæsthetic Vomiting.

DR. L. G. GUNN read a paper on the above subject. He first drew attention to the fact that, as the anæsthetists had not the after treatment of operative cases, they only to a slight extent realised what a troublesome complaint post-operative vomiting might be. He believed it was the duty of the surgeons to use every means in their power to prevent this vomiting. Dr. Gunn himself had been using a method, suggested by MacArthur, of giving the patient frequent drinks of pure cold water right up to the administration of the anæsthetic, and this method had been entirely successful in nine cases, partially successful in nineteen cases, and had had no result in twelve cases, out of the forty patients who had been treated in this way.

THE CHAIRMAN said he had, some years ago, carried out a series of observations on the action of the kidneys during anæsthesia. He found that the amount of nitrogenous material and water excreted during the anæsthesia was very small: but as soon as the patient came out of the anæsthetic the kidneys began to act, and there was a hyper-excretion of water and an increased excretion of nitrogenous material for some hours. It was possible that in this lay the explanation of the pain across the loin. He had noticed when administering anæsthetics that the less the patient was cyanosed during the administration the less vomiting there was afterwards, so that it was important to let the patient breathe a certain amount of fresh air.

DR. KIRKPATRICK said anæsthetists had not seen enough of their patient, either before or after the administration, to have had the importance of the question of post-anæsthetic vomiting impressed upon them. For some years he had considered the question, and disagreed with Mr. Gunn on some points. He (Dr. Kirkpatrick) thought the preparation of a patient had a good deal to say to the condition of the patient afterwards, provided the preparation was satisfactory. He did not look on abstinence from food as of such importance as thorough purgation some time before the anæsthetic was administered. Various

writers pointed out that the patients who usually gave most trouble with post-operative vomiting were those who suffered from more or less chronic constipation. He did not agree that the nature of the drug used had no very great effect on the post-operative condition. Occasionally after chloroform anæsthesia vomiting became so serious as to threaten the patient's life; such a thing was exceedingly rare after ether. He was inclined to believe that the *method* of administering the anæsthetic—the nature of the anæsthesia obtained—was of far more importance than any other factor. The Chairman had pointed out the importance of avoiding cyanosis, and of giving fresh air; when patients were treated by that method they soon recovered, and vomiting was exceedingly uncommon. He would add that anæsthetists had been in the habit of maintaining a depth of anæsthesia which was quite unnecessary in most operations. He had carried out experiments, as the Chairman had, which showed a great diminution in the function of the kidneys, and he could not but think that in a patient who was profoundly anæsthetised there must result a very profound toxæmia. The activity of the renal epithelium in certain animals was not at all as much diminished as it was in the human being during anæsthesia; and it was very probable that that inactivity was associated with a fall in blood pressure.

MR. W. I. DE COURCY WHEELER said he had tried the open method of administering ether, and had found it very simple and the anæsthesia perfect. The patients never became cyanosed, but he had not had enough experience of the method to say whether the vomiting was less frequent. It was particularly suitable for old or fragile persons. Alcoholics, who were difficult to get under ether, vomited less than other patients; if the anæsthesia was begun with chloroform and continued with ether the vomiting was far worse. Local anæsthesia was, he thought, the ideal method. It was perfectly safe to give if the proper drug was used.

DR. PUGIN MELDON said he found it useful to keep patients under the anæsthetic until they were back in bed. In that way the vomiting was not started; they went off into a sleep, and got rid of a good deal of the anæsthetic.

SIR THOMAS MYLES thought that very little was known as to the cause of post-anæsthetic vomiting. He had known a lady, prior to the introduction of aseptic technique, to vomit incessantly for twelve days. Every drug, except one, that they could think

of was administered ; finally she was given half a grain of morphin hypodermically, and the vomiting ceased. He himself had been under every anæsthetic known. He had always insisted on having a cup of tea before the operation, and he was well purged out. He had never vomited or had a fit of sickness. He was inclined to think that the sickness was due to something inherent in the patient. In the majority of cases he thought they would be found to have some kidney trouble. He thought the experience from which Mr. Gunn made his deductions was too limited. If a careful analysis of the 20,000 cases administered annually in Dublin were made, as regards the urine and the vomiting, then they might be justified in making deductions ; but merely to say that in 20 per cent. of cases albumen was present was not sufficient evidence on which to base a generalisation. If a patient was kept on a table in a cold room they could not help giving them a renal chill.

MR. TAYLOR felt that cyanosis had something to do with the vomiting. In most cases of abdominal sections which he had done it had been his habit to give morphin either immediately before the anæsthetic or before leaving the table ; less anæsthetic was then required, and there was less vomiting. He thought the vomiting was less the result of swallowing the anæsthetic than of nervousness.

Exophthalmic Goître.

SIR THOMAS MYLES read a short paper on a case of exophthalmic goître which he believes to have been cured by a diet of milk obtained from a thyroidectomised goat. The patient was a married lady, twenty-five years old, and the symptoms had been developing for more than a year. All the well-marked features of the disease were present, and there had been a progressive loss of strength and colour. The goats were operated on by Professor Mettam, of the Veterinary College, whose co-operation was gratefully acknowledged by the speaker, and when, two days later, the little wound in the neck had healed, the goats were sent to the patient, who resided in the country, and the treatment was begun and steadily persisted in. At the end of a month the improvement was very marked, and at the present moment the enlargement of the thyroid is barely perceptible and the exophthalmos has disappeared. For the last few months the milk diet has been supplemented by the use of Merck's tabloids and by the administration of small doses of iron and arsenic.

Sir T. Myles in bringing the case under the notice of the Section did so with the hope of inducing other practitioners to give the method, which is simple but not costly, a fair trial.

MR. TAYLOR said the method had been tried on the Continent some years ago, and a powder made from the milk of thyroidec-tomised goats could be bought, but the professors on the Continent had not spoken much in its favour.

MR. W. I. DE COURCY WHEELER said the main danger was that, even if the symptoms apparently abated, the patient might at any time drop dead. He had seen astonishingly good results of operative treatment abroad, but he thought the operation must be an extremely difficult and anxious one to perform.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—A. F. DIXON, M.B.

Sectional Secretary—E. P. M'LOUGHLIN, M.B.

Friday, January 24, 1908.

PROFESSOR A. FRASER in the Chair.

The Anatomy of the Iliac Colon in relation to Hernia.

DR. R. A. STONEY read a paper on the above. The subject was suggested by three cases which were recently seen by the speaker, where a hernia of this portion of the large intestine had occurred. Two were hospital patients who were operated on for the radical cure of left inguinal hernia, and in each case the sac, on being opened, was found to contain a piece of the large intestine invaginated through the posterior wall, the sac being incomplete. The third case was an old dissecting-room subject (male) with a large femoral hernia on the left side, which was found to contain, in addition to about three feet of the small intestine, a loop of large intestine which proved to be about three inches of the iliac colon. Though the iliac colon usually has no mesentery and lies far back in the iliac fossa, there are two conditions sometimes present which may increase the liability of this part of the intestine to become extruded from the abdomen—first, the presence of a mesentery (ten per cent. according to Jonnesco); and secondly, a low position in the iliac fossa, the intestine running along in close relation to Poupart's ligament. There are three ways in which a hernia of the iliac colon may occur:—(1) It may be drawn down into or through the inguinal canal by an extra attach-

ment of the gubernaculum—this is the congenital hernia ; (2) it may be drawn down by a protrusion of the peritoneum covering it in the formation of the sac of an ordinary hernia ; (3) there may be a giving way or lengthening of the supporting apparatus of this portion of the intestine, and a subsequent protrusion of it by the expulsive action of the abdominal muscles. The relations of the peritoneum forming the sac and covering the gut will differ according to the mode of formation of the hernia. In the congenital form the sac is probably always incomplete, as there is merely a displacement of the gut and the surrounding peritoneum into the scrotum, so that they maintain their normal relations to one another—*i.e.*, the peritoneum only partially covers the intestine. In the second form also the sac is probably always incomplete, as even if the gut had a mesentery to start with its left or lower layer would be taken up first in the formation of the sac before the gut was drawn into the hernia. Unless the hernia is of an enormous size this form is only likely to occur if the intestine has an abnormally low position. In the third form the presence or absence of a complete sac will depend on which of the two factors are at work. If it is due to a giving way of the attachments of the intestine it slides down behind the peritoneum, and the sac is only partial. This may be truly described as a “hernia *en glissade*.” If, however, it is due to a lengthening or stretching of the support of the intestine the latter either has a mesentery to start with or obtains one which finally becomes long enough to allow the gut to reach the internal abdominal ring and be herniated like any other portion of intestine. In this case, of course, the sac will be complete—in fact, it is probably only in the hernia formed in this way that the sac is ever complete.

PROFESSOR M'LOUGHLIN said that the attachment of the gubernaculum to the peritoneum of the iliac fossa and the drawing down of the testis on that peritoneum was the general rule. It was a rare event to have it left behind. If the pulling of the gubernaculum on this peritoneum was to be considered as the sole cause of the congenital variety of hernia of the iliac colon we should expect to find this form of hernia a common one ; but, as stated by Dr. Stoney, it is one of rare occurrence. The cause, in consequence, is more likely to be *rarely* present. Now, in the fourth month, when the gubernacular bundle is beginning to push its way through the abdominal wall into the scrotum, the hind gut is provided with a mesentery. Should that mesentery

be *unusually* long, especially about its centre or iliac colon portion, the free gut will swing low in the iliac fossa and the future iliac colon will come to lie in the dangerous zone beside the internal abdominal ring. Fusion of the mesentery with the peritoneum of the iliac fossa (as is the rule) may then take place, and the fusion will be with the peritoneum close to the opening in the wall into which the testis is passing. That peritoneum will be drawn down into the opening by the action of the gubernaculum, and so the gut will pass down the canal in the wall of the hernial sac. The cause of the congenital form is thus more likely to be a two-fold one—(1) The *accidental* lengthening of the mesentery of the mid-gut. (2) the action of the gubernaculum—the first being the determining factor.

DR. STONEY, in reply, said that Professor M'Loughlin's suggestion was extremely interesting, and was quite as probable an explanation as his own.

MR. ADRIAN STOKES exhibited a fœtus showing transposition of viscera with a tricœlian heart, and gave the following brief account of the specimen:—The specimen which I have here to-night was obtained by Dr. Jellett in 1896, and was shortly described by him in the *Lancet* of 1897 as a case of transposition of the viscera with a tricœlian heart. Last year Professor Dixon very kindly gave me the opportunity of dissecting the specimen which had previously only had its thoracic and abdominal cavities opened. It soon became apparent that there were present further abnormalities which, I hope, will make it in some way worthy of your attention. The fo-tus is well formed, and lived for a few minutes; the viscera and great vessels show complete transposition; the heart has a single large ventricle and two auricles. It is very remarkable that the left or systemic auricle has no direct communication with the common ventricle, its blood passing through a large patent foramen ovale into the right or pulmonary auricle in order to reach the ventricle. This must be an extremely rare condition. There have been a few cases recorded in which the pulmonary auricle did not communicate with the ventricle, but none so far as I can find in which the systemic auricle did not do so. The only other condition which I desire to note is that the pulmonary artery lies behind the aorta, a condition which is not accounted for by the general transposition of the viscera. Professor Young lately described a very interesting case of a tricœlian heart in a man of about thirty-seven years. In it the chambers of the heart were in

their normal positions, but the aorta arose, he believes, in front of the pulmonary artery. The condition of transposition of the viscera is rare. But few cases have been exhibited in Dublin, among which the best known case is the one exhibited by Professor Fraser before the Royal Academy of Medicine in 1894. The condition of the heart is unlike any case of which I can find a record.

PROFESSOR FRASER exhibited and made remarks upon—

(a) *The Hemispheres of an Encephalon, with well-marked Interruption of both Central Sulci.*

The isthmus which connected the anterior and posterior central gyri lay on the same level as these gyri, and somewhat nearer the medial than the lateral ends of the sulci. The width was slightly over 1 c.m. This condition of the central sulcus is said to be rare. Professor Burt G. Wilder in his essays—Vol. VIII., p. 158; and Vol. IX., p. 108, of the *Reference Handbook of the Medical Sciences*—gives the number of recorded cases as ten or twelve. He illustrates a case where the central sulci were interrupted (as in the above) in the hemispheres of a philosophical writer of some standing.

(b) *A Duodenum of Unusual Form.*

The third or transverse portion, instead of passing across the structures in front of the vertebral column in the usual manner, passed upwards on the right side behind the second or descending portion as far as the foramen of Winslow, thus forming a U-shaped loop, the two limbs of which could only be seen from the right side. Each limb measured slightly over 10 c.m. At the level of the foramen of Winslow the ascending limb passed across behind the superior mesenteric artery to the left side, and then formed the ordinary duodeno-jejunal flexure. The common bile duct passed between the descending and ascending limbs of the loop. The root of the mesentery had its origin from the duodeno-jejunal flexure from the processus uncinatus of the pancreas, and from the sharp bend formed by the descending and ascending limbs of the loop.

(c) *On the Main Artery of the Limb passing down on its Posterior Aspect.*

Professor Fraser had observed this on the left limb of a middle-aged female during the summer session of 1907. He expressed regret at being unable to show the specimen, which he had thought

to be well preserved until a few days before the meeting, when he found that in consequence of some inattention of the Anatomical attendant it had gone astray. In this case the inferior gluteal artery was the size of the common femoral. It accompanied the great sciatic nerve, and became the popliteal at the back of the knee. This latter vessel had the ordinary distribution. On examining the front aspect of the limb the external iliac was found to be smaller than ordinary, but of some size, until as common femoral it gave off its deep division. The superficial was of slight calibre, and was lost in small branches at the knee. Unfortunately, he did not at the time examine the course of the veins. According to Quain, this form of distribution has been recorded ten times, but none of the sources are given. On turning to Henle's *Gefässlehre*, Professor Fraser found on pp. 303 and 312 a case illustrated (from Dubrueil) exactly similar to the one noted above. Also cases that have been described in English—Green (*Lancet*, February, 1832), who described a French specimen (as Fagge notes); Professor Ellis (*Med. Chir. Trans.*, Vol. XXXVI., p. 439), double, but in malformed limbs; and, finally, that of Fagge (*Guy's Hospital Reports*, Vol. X., p. 151), where an aneurysm had been found on the artery. Mr. Fagge considers that the cases recorded by Cailliard and Dubrueil were written from the same specimen, although at an interval of years.

PROFESSOR M'LOUGHLIN, in discussing the latter communication, stated that only that morning, in his dissecting-room, he had seen two examples of portion of the abnormal artery described by Professor Fraser. On *each limb* of a female subject the following was shown:—(1) The normal sciatic artery coming out of pelvis internal to sciatic nerve, and running down in superficial fascia. (2) *A second artery* (the abnormal one) coming out of the pelvis, through a two-inch long cleft in the sciatic nerve and running down deep to the biceps to the popliteal space. Here the artery of the right side communicated with the popliteal artery by a branch about the size of a small digital artery.

Dorsal Origin of the Right Subclavian Artery, with associated vascular irregularities.

PROFESSOR M'LOUGHLIN exhibited a case of the above. The *right subclavian artery* arose from the lower part of the arch opposite the disc, between the third and fourth vertebræ. It was bulbous and wide (24 mm.) at its origin; then, passing behind the

œsophagus and trachea. its anterior wall was deeply cupped, the posterior bulging markedly, so that the vessel would be crescentic on section. The vessel ran upwards and to the right, crossing in the middle line the disc between the second and third vertebrae. Its calibre was here much reduced, the tube—although flattened—measuring 13 mm. It now ran up the side of the body of the second vertebra and, opposite the middle of the body of the first vertebra, gave off a very large vertebral artery, the remaining three branches coming off the artery 1 cm. further on. The internal mammary was large, the superior intercostal small, and the thyroid axis small. The length of the artery up to origin of vertebral was 6.25 cm. ; the whole of the first stage 7.50 cm. Its calibre just before the origin of the vertebral was 10 mm. The small superior intercostal artery gave off a profunda cervicis branch, which passed back *below* the inner end of the first rib, and not, as is usual, above it. The branch to the second space was joined, as is frequently seen, near the posterior end of the space by a small artery, which came up across the body of the third vertebra, and was found to arise from a small first aortic intercostal, which was itself a branch of a very large right bronchial artery. This small artery linking the aorta (through its first aortic intercostal branch) with the subclavian (through its superior intercostal branch) has been held (just as the small aberrant artery which is occasionally seen linking the aorta directly with the subclavian) to represent in miniature the right dorsal aorta between the fourth arch and the point of fusion of both dorsal aortæ to form the descending aorta ; but its presence in this specimen *in association with the irregular subclavian*, which is a persistent right dorsal aorta, is in contradiction to this view. This occasional aberrant artery, however, runs a course similar to that of the irregular subclavian, and should certainly be regarded as a vestige of the right aorta. Of other arterial irregularities present in this subject two may be specially noted. (1) The *lingual* artery was a very small twig arising a short distance above a small superior thyroid. It ran up to the hyoglossus, where it gave off its suprahyoid branch, and ended under the posterior part of that muscle by ascending in the position of a dorsalis linguæ branch. The greater part of the lingual area was supplied by a large artery which came off a large submental branch of the facial. This artery pierced the mylohyoid far back, ran forwards on the surface of the anterior part of the hyo-

glossus, giving forwards a sublingual branch, and backwards—under the anterior border of the muscle—a *dorsalis linguae* branch. It then ascended to the under surface of the tongue, where it ran in the intermuscular cleft, as the *ranine* artery, to meet the opposite *ranine* at the tip of the tongue. The opposite lingual artery was normal. If we regard the lingual artery as a prolongation from the ventral end of the second aortic arch, and the facial artery from the end of the first aortic arch, then our abnormally constituted lingual artery represents two arteries, one of the first arch and one of the second arch, brought together about the middle of the tongue, or just about the line to which the second arch portion of the tongue reaches forwards to embrace the *tuberculum impar* and first arch portion of that organ. (2) The *vertebral* artery arising from the irregular subclavian was very large, the left vertebral very small. Both ran normal courses, and formed the basilar at the lower edge of the pons. The left vertebral was a very slender twig at the point of union. At the upper end of the pons nearly the whole artery turned to the left as the left posterior cerebral artery, a small branch only going out to the right; the posterior cerebral of the right side being mainly formed by a very large posterior communicating artery from the internal carotid. There was no direct communication between the internal carotid and the posterior cerebral arteries on the left side, the posterior communicating artery being but a very small twig which failed to reach the posterior cerebral. Associated with the irregular subclavian artery was a *thoracic duct* which, as is usual in such cases, ended on the right side of the neck. The duct lay in the middle line over the twelfth dorsal vertebra, passed to the left over the body of the eleventh vertebra, and then ran up on right side of the aorta, crossing the origin of the large right bronchial artery. Opposite the fourth dorsal vertebra it divided into two parts, which swept round in a circle and soon reunited, and then the duct turned over to the right (directed by the subclavian trunk which lay on its left), lying on the third and second vertebræ. Then crossing over the front of the subclavian artery, half an inch below and internal to origin of vertebral and outside the vagus nerve, it passed up to end in the outer and posterior aspect of the internal jugular vein about one-third of an inch above its junction with the subclavian. A small lymph vessel, corresponding to the jugular trunk, opened just beside it into the jugular vein. No trace of a thoracic duct could

be found on the left side of the neck, but on examining the upper part of the posterior wall of the thorax on the left side a large vein was seen running over the heads of the ribs. It opened above into the left end of the left innominate vein, and at its lower end turned transversely across the disc, between the seventh and eighth dorsal vertebræ, to end in the ventral azygos major. It drained the upper eight intercostal spaces of the left side.

Unusual Position of Large Intestine.

PROFESSOR M'LOUGHLIN also called attention to the unusual position of the large intestine in the same subject. The ascending colon lay altogether in the iliac fossa, the cæcum was in the pelvis, and the descending colon was buried in a recess behind the lower third of the kidney and deep under cover of the psoas lower down.

Irregular Disposition of the Hind Gut Division of the Colon.

PROFESSOR M'LOUGHLIN gave an account of a case of the above which he had seen recently in the dissecting-room. From the splenic flexure the colon ran down in its normal position to the iliac fossa. Near the outer border of the psoas it turned sharply on itself and ran straight upwards on the mesial side of the first tube. The second tube was provided with a short mesentery. Reaching the front of the lower part of the kidney it again turned sharply and ran down along the inner side of the second tube, and, dropping over the brim of the pelvis just behind the iliac bifurcation, it turned almost immediately backwards into the curve of the sacrum, where it soon lost its mesentery and became the rectum. The second and third tubes were obviously the sigmoid flexure, and the unusual position was probably due to the fact that the middle portion of the mesosigmoid failed to grow in proportion to the upper and lower parts, and that, in consequence, during the growth of the lumbar region, the central part of the flexure was left stranded high up in the position of the second bending over the lower end of the kidney. The line between the second and third tubes lay immediately over the course of the ureter, and the shallow recess beneath the second bending already noted might be regarded as an unusually highly placed intersigmoid fossa.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, February 22, 1908.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending February 22, 1908, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 26.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,131,959. The deaths registered in each of the four weeks ended Saturday, February 22, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c	Week ending				Average Rate for 4 weeks
	Feb. 1	Feb. 8	Feb. 15	Feb. 22			Feb. 1	Feb. 8	Feb. 15	Feb. 22	
22 Town Districts	23.0	23.8	25.2	26.0	24.5	Lisburn -	31.8	18.2	40.9	13.6	26.1
Armagh -	34.4	13.7	13.7	-	15.5	Londonderry	17.0	14.6	13.4	12.2	14.3
Ballymena	28.7	9.6	23.9	14.4	19.2	Lurgan -	17.7	17.7	26.6	22.1	21.0
Belfast -	22.2	27.8	28.2	30.7	27.2	Newry -	25.2	25.2	21.0	16.8	22.1
Clonmel -	25.6	25.6	20.5	15.4	21.8	Newtownards	28.6	34.3	28.6	45.8	34.3
Cork -	24.7	27.4	24.7	21.9	24.7	Portadown	36.2	15.5	25.8	25.8	25.8
Drogheda -	4.1	16.3	16.3	8.2	11.2	Queenstown	6.6	26.4	46.1	39.6	29.7
Dublin (Reg. Area)	25.5	22.3	24.7	25.5	24.5	Sligo -	4.8	14.4	19.2	33.6	18.0
Dundalk -	12.0	8.0	4.0	23.9	12.0	Tralee -	10.6	21.1	10.6	26.4	17.2
Galway -	23.3	27.2	42.7	15.5	27.2	Waterford	17.5	23.4	7.8	27.3	19.0
Kilkenny -	9.8	9.8	29.5	34.3	20.9	Wexford -	9.3	28.0	42.0	32.7	28.0
Limerick -	30.1	23.2	23.2	23.2	24.9						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, February 22, 1908, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in seventeen of the districts to 5.7 in Newtownards—the 8 deaths from all causes registered in that district including one from measles. Among the 224 deaths from all causes registered in Belfast are 11 from measles, one from typhus, 10 from whooping-cough, one from diphtheria, 2 from enteric fever, 3 from diarrhoeal diseases, 2 from cerebro-spinal fever, and 2 returned as from *cerebro-spinal meningitis*. Among the 10 deaths from all causes in Londonderry is one from whooping-cough. One of the 7 deaths from all causes registered in Wexford is also from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 394,525, that of the City being 303,874, Rathmines 36,087, Pembroke 28,183, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, February 22, 1908, amounted to 189—104 boys and 85 girls: and the deaths to 202—104 males and 98 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 26.7 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the Area, the rate was 25.5 per 1,000. During the eight weeks ending with Saturday, February 22, 1908, the death-rate averaged 27.5, and was 1.0 below the mean rate for the corresponding portions of the ten years, 1898-1907.

Among the 202 deaths registered in the week are 3 deaths from whooping-cough and one death from enteric fever. In each of the 3 weeks preceding, deaths from whooping-cough were 2, 1, and 1, and deaths from enteric fever were 0, 2, and 0. Deaths from influenza, which had been 6, 13, and 13 in each of the 3 preceding weeks, declined to 10 in the period under notice. There were 2 deaths from cerebro-spinal fever, which disease had caused

0, 2, and 1 deaths in each of the 3 weekly periods preceding that under notice.

There were 2 deaths from lobar pneumonia, 7 from broncho-pneumonia, and 6 from *pneumonia* (not defined).

Deaths from all forms of tuberculous disease amounted to 41, including 22 deaths from tubercular phthisis (*phthisis*), 5 from tubercular meningitis, 4 from tubercular peritonitis, one from *tabes mesenterica*, and 9 deaths from other forms of the disease. In each of the three preceding weeks, deaths from all forms of tuberculous disease had been 37, 24, and 44.

Carcinoma and sarcoma each caused one death, and there were 5 deaths from cancer (undefined.)

The deaths of 4 prematurely born infants were recorded.

Of 19 deaths from diseases of the brain and nervous system, 6 were of infants under one year of age and one was of a child aged one year and four months were from *convulsions*.

Diseases of the heart and blood-vessels accounted for 36 deaths, and there were 24 deaths from bronchitis.

There was one death by burns, the victim being a child aged $4\frac{1}{2}$ years. There were 2 deaths by drowning and one death by suicide.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 2 infants under one year old.

Sixty of the persons whose deaths were registered during the week were under 5 years of age (36 being infants under one year, of whom 11 were under one month old) and 46 were aged 60 years and upwards, including 20 persons aged 70 and upwards, of whom 7 were octogenarians, and one (a female) was stated to have been aged 94 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly,

Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended February 22, 1908, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Erythema of uncertain origin	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Total
City of Dublin	Feb. 1	-	*	*	3	-	-	9	-	3	4	4	1	*	*	*	24
	Feb. 8	-	*	*	6	-	-	6	-	2	1	9	-	*	*	*	24
	Feb. 15	-	*	*	6	-	-	4	-	1	9	9	-	*	*	*	31
	Feb. 22	-	*	*	6	-	-	5	-	6	2	2	-	*	*	*	42
Rathmines and Rathgar Urban District	Feb. 1	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	Feb. 8	-	*	*	1	-	-	-	-	-	2	-	-	*	*	*	2
	Feb. 15	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	Feb. 22	-	*	*	5	-	-	1	-	-	-	1	-	*	*	*	7
Pembroke Urban District	Feb. 1	-	3	1	-	-	-	-	-	-	-	-	-	*	1	-	5
	Feb. 8	-	4	-	2	-	-	1	-	-	-	-	-	*	-	-	7
	Feb. 15	-	2	-	1	-	-	1	-	-	-	-	-	*	1	-	5
	Feb. 22	-	3	-	1	-	-	-	-	-	2	-	-	*	-	-	6
Blackrock Urban District	Feb. 1	-	*	*	-	-	-	-	-	-	-	-	-	*	-	-	-
	Feb. 8	-	*	*	1	-	-	-	-	-	-	-	-	*	-	-	1
	Feb. 15	-	*	*	-	-	-	-	-	-	-	-	-	*	-	-	-
	Feb. 22	-	*	*	-	-	-	-	-	-	-	-	-	*	-	-	-
Kingstown Urban District	Feb. 1	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Feb. 8	-	*	*	-	-	-	-	-	-	1	-	-	*	*	*	1
	Feb. 15	-	*	*	-	-	-	-	-	-	-	-	-	*	*	*	-
	Feb. 22	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
City of Belfast	Feb. 1	-	*	*	7	3	-	5	-	3	5	9	-	*	-	-	32 ^a
	Feb. 8	-	*	*	11	2	-	6	-	3	4	8	1	*	-	-	35 ^a
	Feb. 15	-	*	*	6	1	-	4	-	5	5	6	2	*	-	-	29 ^a
	Feb. 22	-	*	*	10	3 ^b	-	6	2	7	2	3	1	*	*	8	42

(a) Not including 12 cases of cerebro-spinal fever reported during the week ended February 1, 8 cases during the week ended February 8, and 6 cases during the week ended February 15.

(b) Including 2 cases notified on February 17, as suspected typhus and not confirmed, 22/2/08.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

Eight cases of measles were admitted into hospital during the week ended February 22, 1908, 7 were discharged, and 21 cases remained under treatment at its close.

Three cases of scarlet fever were admitted to hospital, 7 were discharged, and 39 cases remained under treatment at the close of the week. This number is exclusive of 9 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

One case of typhus was admitted to hospital during the week, and remained under treatment at its close.

Two cases of diphtheria were admitted to hospital, 6 were discharged, there was one death, and 23 patients remained under treatment at the close of the week.

Eight cases of enteric fever were admitted to hospital during the week, 6 were discharged, and 31 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 11 cases of pneumonia were admitted to hospital, 8 were discharged, there was one death, and 30 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, February 22, 1908, in 76 large English towns, including London (in which the rate was 18.5), was equal to an average annual death-rate of 18.4 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 21.8 per 1,000, the rate for Glasgow being 21.5 and for Edinburgh 17.9.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended February 22. From this Report it appears that of a total of 84 cases notified 39 were of scarlet fever, 17 of diphtheria, 4 of erysipelas, and one of small-pox.

Among the 411 cases of infectious diseases in hospital at the close of the week were 224 cases of scarlet fever, 51 of measles, 32 of diphtheria, 18 of whooping-cough, 9 of erysipelas, 6 of small-pox, 6 of enteric fever, and 4 of cerebro-spinal fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin. Lat. 53° 20' N., Long. 6° 15' W., for the Month of February, 1908.

Mean Height of Barometer,	-	-	-	30.110 inches.
Maximal Height of Barometer (6th, at 9 p.m.),	-	-	-	30.764 ..
Minimal Height of Barometer (28th, at 9 p.m.),	-	-	-	29.210 ..
Mean Dry-bulb Temperature,	-	-	-	43.9°.
Mean Wet-bulb Temperature,	-	-	-	42.0°.
Mean Dew-point Temperature,	-	-	-	39.7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	.246 inch.
Mean Humidity,	-	-	-	85.6 per cent.
Highest Temperature in Shade (on 22nd),	-	-	-	53.2°.
Lowest Temperature in Shade (on 29th),	-	-	-	33.0°.
Lowest Temperature on Grass (Radiation) (29th),	-	-	-	30.2°.
Mean amount of Cloud,	-	-	-	68.8 per cent.
Rainfall (on 20 days),	-	-	-	1.372 inches.
Greatest Daily Rainfall (on 14th),	-	-	-	.384 inch.
General Directions of Wind,	-	-	-	W., N.W.

Remarks.

A month of uninterrupted and often strong, though generally soft, oceanic winds, clouds, frequent showers, but no heavy rains, and high mean temperature. There was little or no frost in the Dublin district. An anticyclone of remarkable staying power lay over Ireland during the first half of the month. On the evening of the 6th the barometer rose to 30.764 inches in Dublin. From the 13th to the close rain fell daily in Dublin. Under the lee of the mountains, the weather was fairer and drier—at Grey-stones the rainfall was not quite nine-tenths of an inch, and there were only 10 rain-days compared with 20 in Dublin. The second half of the month was very windy as well as showery, and a violent gale occurred on the 22nd. The last week was distinctly cold, as polar air swept down from the Icelandic region to the British Isles.

In Dublin the mean temperature (44.8°) was 2.4° above the average (42.4°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 43.9°. In the forty-four years ending with 1908, February was coldest in 1895 (M. T. = 34.2°), and warmest in 1903 (M. T. = 47.5°). In 1906 the M. T. was 39.7°. In 1907 it was 40.3°.

The mean height of the barometer was 30.110 inches, or 0.255 inch above the average value for February—namely, 29.855

inches. The mercury rose to 30.764 inches at 9 p.m. of the 6th, and fell to 29.210 inches at 9 p.m. of the 28th. The observed range of atmospheric pressure was, therefore, 1.554 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 43.9° , or 3.1° above the value for January, 1908. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* $\times .50$), the M. T. is 44.8° , compared with a thirty-five years' (1871–1905) average of 42.4° . On the 22nd the thermometer in the screen rose to 53.2° —wind, S.W.; on the 29th it fell to 33.0° —wind, N.W. The minimum on the grass was 30.2° on the 29th.

The rainfall was 1.372 inches, distributed over 20 days. The average rainfall for February in the thirty-five years, 1871–1905, inclusive, was 2.01 inches, and the average number of rainy days was 15. The rainfall, therefore, was considerably below the average, whereas the rainy days were much in excess. In 1883 the rainfall in February was large—3.752 inches on 17 days: in 1879 also 3.706 inches fell on 23 days. On the other hand, in 1891, only .042 inch was measured on but 2 days. In 1907, 1.304 inches fell on 14 days.

There was a complete absence of fog during the month. The amount of cloud—68.8 per cent.—was above the average—66 per cent. High winds were noted on 13 days, and reached the force of a gale on 3 days—namely, the 14th, 22nd, and 28th. Hail fell on the 21st, 22nd, 23rd, 27th and 28th. Snow or sleet fell on the 15th, 27th, 28th and 29th. Lunar halos were seen on the 12th and 14th, and a lunar corona on the 9th. Lightning occurred on the early morning of the 29th.

The temperature reached or exceeded 50° in the screen on 15 days, while it never fell to 32° , compared with freezing temperatures on as many as 18 nights in 1895. The minima on the grass were 32° or less on only 2 nights, compared with every night in 1895. The thermometer never failed to rise to 40° in the screen in the daytime. The highest minimum was 46.6° on the 20th.

In Dublin the rainfall up to February 29th amounted to 3.427 inches on 36 days, compared with 1.732 inches on 23 days in 1907, 5.771 inches on 42 days in 1906, 2.647 inches on 26 days in 1905, 5.847 inches on 36 days in 1904, 5.503 inches on 35 days in 1903, 3.362 inches on 22 days in 1902, 3.872 inches on 29 days in 1901, and a thirty-five years' (1871–1905) average of 4.220 inches on 33 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. J. E. W. Flood, Sch., reports that the mean height of the barometer was 30.106 inches, the highest reading observed being 30.758 inches at 9 p.m. of the 6th, the lowest, 29.202 inches at 9 p.m. of the 28th. The mean temperature was 45.2° , the mean dry-bulb reading at 9 a.m. and 9 p.m. being 44.4° . The screened thermometers rose to 53.9° on the 22nd, and fell to 33.2° on the 29th. The grass minimum was 29.0° , on the 29th, while the black bulb *in vacuo* rose in the sun to 86.3° on the 21st. The mean daily maximum was 49.3° ; the mean daily minimum, 41.0° ; and the mean daily minimum on the grass, 35.7° . Rain fell on 15 days to the amount of 1.269 inches, .379 inch being measured on the 14th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was only 46.8, giving a daily average of 1.6 hours. The mean temperature of the soil at 9 a.m. at a depth of one foot was 43.1° ; at a depth of 4 feet it was 44.3° .

The rainfall at Leeson Park, Dublin, is given by Dr. C. Joynt, F.R.C.P.L., as 1.354 inches on 20 days, .390 inch having been measured on the 14th.

At the Ordnance Survey Office, Phoenix Park, the rainfall was 1.817 inches on 23 days, the maximal measurement in 24 hours being .575 inch on the 14th. The total amount of sunshine was 67.9 hours, of which 6.5 hours were recorded on the 23rd.

Miss Muriel E. O'Sullivan reports that at White Cross, Stillorgan, Co. Dublin, 1.257 inches of rain fell on 22 days, .290 inch, the maximum, being measured on the 14th. Since January 1, the rainfall at this station equals 3.317 inches on 41 days.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 20 days to the amount of 1.16 inches, the greatest daily fall being .37 inch on the 14th. In February, 1901, the rainfall was 1.55 inches on 10 days; in 1902, it was 2.76 inches on 11 days; in 1903, 2.95 inches on 15 days; in 1904, 4.05 inches on 21 days; in 1905, 1.07 inches on 12 days; in 1906, 2.03 inches on 18 days, and in 1907, 1.29 inches on 13 days. The temperature in the shade ranged from 52° on the 22nd to 32° on the 29th. The mean temperature in the screen was 44.9° , compared with 39.0° in 1902, 47.1° in 1903, 40.4° in 1904, 43.6° in 1905, 39.6° in 1906, and 39.6° in 1907.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian,

Greystones, Co. Wicklow, the rainfall was only .885 inch on 10 days. The heaviest fall in 24 hours was .180 inch on the 16th. In February, 1901, the rainfall was 1.385 inches on 11 days; in 1902 it was 2.590 inches on 8 days; in 1903, 2.870 inches on 14 days; in 1904, 2.957 inches on 19 days; in 1905, .650 inch on 9 days; in 1906, 1.845 inches on 14 days; and in 1907, 1.230 inches.

At Clonsilla, Greystones, Dr. Arthur G. Price recorded only .85 inch on 10 days, .21 inch being measured on the 16th. The mean temperature of the month was 43.6° , the extremes being—highest, 55° , on the 20th; lowest, 30° , on the 28th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 1.103 inches on 17 days. The greatest fall in 24 hours was .255 inch on the 16th. The mean shade temperature was 41.9° , the extremes being—highest, 50.5° , on the 20th; lowest, 28° , on the 28th.

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory, Dunmanway, Co. Cork, at 3.01 inches on 14 days, the greatest fall in 24 hours being 1.07 inches on the 14th. The rainfall for January and February equals 9.43 inches on 35 days.

In the City of Cork, Mr. William Miller registered 1.15 inches of rain on 12 days, the largest measurement in 24 hours being .32 inch on the 16th. The rainfall was 2.28 inches below the average, and the lowest for February since 1891, when it was only .50 inch. During the first two months of 1908 the rainfall was 3.67 inches, or 3.96 inches below the average. The thermometer in the screen rose to 53° on the 20th and fell to 31° on the 29th. The mean temperature was 43.0° , or 0.9° above the average for the month.

LITERARY NOTE.

WE regret to announce that Mr. Sidney Appleton, the senior member of the firm of D. Appleton & Company, 25 Bedford Street, London, died suddenly on the 16th of March. The business will be continued by Mr. Warner Circuit, the remaining partner, who has been associated with Mr. Sidney Appleton for some time, and no interruption will occur in the transaction of the affairs of the business. Mr. Warner Circuit will have the assistance of Mr. Walter Blaber, who for many years past has acted as manager for the firm. Among the medical publications of the firm are Osler's "Practice of Medicine," Holt's "Diseases of Infancy," Williams' "Obstetrics," and Butler's "Diagnostics," together with other standard works.

RECLAMATION.

TO THE EDITOR OF THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

DEAR SIR,—I have read with much pleasure the encouraging review of my little book, "Skin Affections of Childhood," in the February number of your Journal. I should like, however, to point out that your reviewer, who calls me to account for certain "slips of the pen," writes my name "Davidson."

Yours faithfully,

H. G. ADAMSON.

9 Weymouth Street, Portland Place, W.

Feb. 27, 1908.

PERISCOPE.

THE HODGKINS FUND PRIZE OF \$1,500.

THIS valuable prize is offered by the Smithsonian Institution, Washington, D. C., in accordance with the following announcement:—Smithsonian Institution. Hodgkins Fund Prize. In October, 1891, Thomas George Hodgkins, Esquire, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In the furtherance of the donor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations, and issued publications. In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, September 21 to October 12, 1908, a prize of \$1,500.00 is offered for the best treatise that may be submitted to that Congress "On the Relation of Atmospheric Air to Tuberculosis." The treatise may be written in English, French, German, Spanish or Italian. The essays will be examined and the prize awarded by a Committee appointed by the Secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize if in the judgment of the Committee no contribution is offered of sufficient merit to warrant such award. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded. Further information, if desired by persons intending to become competitors, will be furnished on application to Charles D. Walcott, Secretary, Smithsonian Institution.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS, WASHINGTON,
1908.

THE Central Committee of the International Congress on Tuberculosis has announced the offer of the following prizes :—I. A prize of \$1,000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary Association since the last International Congress in 1905. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. Evidence is to include all forms of printed matter, educational leaflets, &c. ; report showing increase of membership, organisation, classes reached—such as labour unions, schools, churches, &c. ; lectures given ; influence in stimulating local Boards of Health, schools, dispensaries, hospitals for the care of tuberculosis ; newspaper clippings of meetings held ; methods of raising money ; method of keeping accounts. Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required. II. A prize of \$1,000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form. III. A prize of \$1,000 is offered for the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designed to stimulate efforts towards securing a maximum of sunlight, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawings, specifications, estimates, &c., with an explanation of points of special excellence. Entry may be made under competitor's own name. IV. A prize of \$1,000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of \$1,000, two gold medals and three silver medals

will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

V. A prize of \$1,000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of \$1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management and results obtained. Each competitor must present a brief or report in printed form.

VI. The Hodgkins Fund Prize of \$1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis." The detailed definition of this prize may be obtained from the Secretary-General of the International Congress or Secretary of the Smithsonian Institution, Chas. D. Walcott.

VII. Prizes for Educational Leaflets: A prize of \$100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of \$100, a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award. Competitors must be entered under assumed names.

A. For adults generally (not to exceed 1,000 words). B. For teachers (not to exceed 2,000 words). C. For mothers (not to exceed 1,000 words). D. For in-door workers (not to exceed 1,000 words). E. For dairy farmers (not to exceed 1,000 words). F. For school children in grammar school grades (not to exceed 500 words). In classes A., B., C., D., E., and F. brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

G. Pictorial booklet for school children in primary grades and for the nursery. Class G. is designed to produce an artistic picture-book for children, extolling the value of fresh air, sunlight, cleanliness, &c., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs without printing.

VIII. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States, illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

IX. A gold medal and two silver medals are offered for the best exhibits sent in by any State or Country (the United States excluded), illustrating effective organisation for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award. X. A gold medal and two silver medals are offered for each of the following exhibits; each medal will be accompanied by a diploma or certificate of award; wherever possible each competitor is required to file a brief or printed report:—A. For the best contribution to the pathological exhibit. B. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State of the United States. Brief required. C. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State or Country (the United States excluded). Brief required. D. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required. E. For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required. F. For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required. G. For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required. H. For the best plans for employment for arrested cases of tuberculosis. Brief required. XI. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a work-shop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form. The following constitute the Committee on Prizes:—Dr. Charles J. Hatfield, Philadelphia, *Chairman*; Dr. Thomas G. Ashton, Philadelphia, *Secretary*; Dr. Edward R. Baldwin, Saranac Lake; Dr. Sherman G. Bonney, Denver; Dr. John L. Dawson, Charleston, S. C.; Dr. H. B. Favill, Chicago; Dr. John B. Hawes, 2nd., Boston; Dr. H. D. Holton, Brattleboro'; Dr. E. C. Levy, Richmond, Virginia; Dr. Charles L. Minor, Ashville, N. C.; Dr. Estes Nichols, Augusta, Me.; Dr. M. J. Rosenau, Washington; Dr. J. Madison Taylor, Philadelphia; Dr. William S. Thayer, Baltimore; Dr. Louis M. Warfield, St. Louis.

In Memoriam.

CONOLLY NORMAN, M.D. DUBL. (*Hon. Causâ*) ;
FELLOW AND VICE-PRESIDENT, ROYAL COLLEGE OF PHYSICIANS
OF IRELAND : MEDICAL SUPERINTENDENT OF THE
RICHMOND DISTRICT ASYLUM.

It is with a very real sense of personal as well as of professional loss, and with the deepest regret, that we have to record the death of CONOLLY NORMAN, which took place suddenly on the afternoon of Sunday, Feb. 23, 1908.

DR. NORMAN had returned from a holiday in the country only five days before the sad event took place, seemingly in good health and the best of spirits, and to all appearances he had quite recovered from the severe attack of influenzal fever and bronchitis which had prostrated him in Christmas week and had confined him to his bed during the subsequent three weeks. He had resumed his official duties at the Asylum, and had received, on the Friday before his death, the hearty welcome of his staff and the congratulations of his Committee.

On Sunday he spent over two hours in the Asylum, and returned home for luncheon, of which he partook with his usual appetite, and afterwards left his house with the intention of paying a short visit to his friend Sir Thornley Stoker. He walked about fifty yards, when he was seen to stagger and fall. Kindly aid and medical skill were almost immediately at hand, and Dr. Cullinan, his Assistant Medical Officer of the Asylum, did all it was possible to do for him, but all to no purpose, as death was instantaneous. Within a quarter of an hour he was carried home a dead man, whence he had gone forth "a living spirit." No more striking instance has ever occurred of the truth of the well-known saying—"in the midst of life we are in death." The whole incidents of the terribly tragic end of one of the most highly respected physicians and citizens of Dublin gave a shock which will never be forgotten, and awakened throughout the City an amount of intense and pathetic interest.

In Memoriam.

At his funeral, on the 26th of February, one of the largest concourses of friends, and of representatives of every class and grade of society, ever seen in Dublin, bore testimony to the profound sympathy with his sorrowing widow which had been aroused, and to the acute sense of the irreparable loss the wide circle of his friends, the medical profession, and in particular his special branch of psychology, had suffered by his death—a loss which will be deplored throughout Ireland and wherever mental science is studied.

DR. CONOLLY NORMAN had suffered for some years from attacks of angina pectoris, and it was in one of these the heart stopped.

At the time of his death CONOLLY NORMAN was Vice-President and Censor of the Royal College of Physicians of Ireland, of which he had been a Fellow since 1890. In 1907 the University of Dublin, in recognition of his professional eminence, had conferred on him the distinction of the honorary degree of M.D.; and last September he went as the accredited representative of both the College of Physicians and the Royal Academy of Medicine in Ireland to attend the meeting of the Medico-psychological Congress at Amsterdam. His reputation and his personality pointed him out as the greatest of the specialists representing the British Isles at that Congress. This was the reason why he was entrusted with one of the most important resolutions at the final meeting. It may be worth while mentioning a little incident which occurred at the opening meeting, when the distinguished visitors' names were being discussed by the members: To the question, overheard—"Whom have we got from England?" the answer came—"I do not know, but we have CONOLLY NORMAN from Dublin"—a straw will show which way the wind blows.

To the special study of mental disease CONOLLY NORMAN applied himself early in his medical career, and it was the dream of his life to advance it, by every means in his power, to the high position it has now attained. He brought to his aid a cultured, intellectual, and well-read mind—versed in French, German and Italian literature—and he exercised by his pen and incisive speech a wide influence in the

In Memoriam.

advancement of the study of psychiatry. His principal writings appeared in connection with the Medico-psychological Association, of which he was an active member, and a past President (in 1894-5), and lately Local Secretary for Ireland. He was also joint-editor of the *Journal of Mental Science* up to the day of his death, and so interested was he in its welfare that so lately as the 18th of January, a day or two before he left for change and rest, he was engaged in matters connected with that journal.

Many contributions from his pen were read before the Royal Academy of Medicine, and published in this Journal, dealing not only with matters of psychological interest, but also with pathology and general medicine. Among the latter it will suffice to point to two most valuable communications, which stamped him as a diagnostician of keen insight, a physician of therapeutic skill, and an ardent exponent of sanitary science. The subjects exhaustively and scientifically dealt with were—"An Outbreak of Dysentery" (1886) and "The Clinical Features of Beri-beri" (1899), both of which rare diseases had occurred in the Richmond Asylum.

These papers not only aroused an unusual stir and interest in medical circles, but they exercised a far wider and beneficent effect in the condemnation of the overcrowding of the insane, and in the subsequent very extensive structural alterations in the buildings and grounds of the Asylum.

In addition to his many scientific and literary studies in psychiatry, he was one of the most successful and practical exponents of clinical instruction in lunacy.

It was during his term of office as Resident Medical Superintendent of the Richmond Lunatic Asylum that certificates in clinical lunacy became a necessity for candidates for the Degree in Medicine in the University of Dublin, and it was largely owing to his wide-reaching influence that the patients were allowed to be utilised for such purposes under his personal supervision. To these clinical courses he devoted much time and energy, and they were highly and justly appreciated by his successive classes.

Commencing in 1874 as Assistant Medical Officer at Monaghan Asylum, where he worked for seven years, CONOLLY

In Memoriam.

NORMAN was appointed Medical Superintendent of Castlebar Asylum the following year—1882—and in 1885 he returned, as Superintendent, to Monaghan Asylum. In 1888 he was appointed by Lord Aberdeen—then, as now, Lord Lieutenant of Ireland—to the Richmond District Asylum, in succession to the late Dr. Lalor, and here he spent his last twenty years of service.

If it was a work near his heart, it was one of great anxiety and worry, as, owing to his keen desire to improve the calamitous state of the poor insane in which he found them, and to render their lives endurable, he not infrequently found his views and plans of reform opposed by members of his Committee on the question of finance, and his hands tied for want of funds to carry them out. Nothing daunted, he strode straight on in the path of honourable enthusiasm and beneficence, with the result that some of those who had opposed him became his supporters; as they always were his admirers, and he had the supreme satisfaction of seeing the Asylum placed in the forefront of all such institutions in the country, and of receiving, only two days before his death, the hearty welcome on his return of every member of his staff and the congratulations and good wishes of his Committee. It was no wonder therefore that, in the words of the Chairman of the Committee, spoken at a meeting specially convened the day following his funeral, "DR. NORMAN'S sudden death has thrown a gloom over the whole institution, and has caused genuine sorrow to us all; to the members of the Joint Committee, who recognised his great ability; to his medical colleagues, whose interests were his constant care; and to the attendants and nursing staff, who certainly owe to his personal exertions the important *status* which they now occupy, and which is the direct result of the special training he secured for them; and to our patients." The Chairman proceeded: "I have been eleven years a member of this Board, and I can testify that the one great aim of DR. NORMAN'S life has been the care of the afflicted people committed to his charge. To that task he directed all his great medical skill, his ripe experience, his humane judgment, and therein he succeeded in a measure far exceeding all his predecessors." The contrast which the speaker drew

In Memoriam.

between the Asylum twenty years ago and now was most striking. He showed how that, from being a prison for the offenders against society, where restraint and repression were proportionate to the violence and gravity of the disease, it was now transformed into an hospital for the alleviation of the suffering ones and for the cure of the sick. "It is also a hive of industry, where the bodily strong find occupation and relief from their mental weakness. Surely is a man to be judged by his work, and this life-long work of DR. NORMAN compels our unstinted admiration. It will remain a lasting testimony to his great genius and ability as a humane administrator and physician of the insane."

Thus may the curtain fall upon his public life and his professional and scientific career; but, as to his private life in his home, where last year he celebrated his silver wedding with his loving and devoted wife—who was ever his helpmate and comforter in the many trying and anxious years of his life, and who so ably and practically seconded all his schemes for the bettering of the female patients in the Asylum, and the brightening of their surroundings—we must be silent. We can only respect the sorrowing solitude of his widow while we tender her our heartfelt sympathy.

For ourselves we can but look back upon memories full of pleasurable greetings, genial intercourse, hospitable entertainments, and an ever-present sense that in CONOLLY NORMAN'S company we were in that of a good and Christian man, a tender and sympathetic heart: upon whose words and actions we could implicitly rely. His presence is no longer with us, his place we cannot fill, but his example and life will help us to be better men, and to aim towards the goal he has reached, and to receive the like reward—"Well done, good and faithful servant, enter thou into the joy of thy Lord."

J. M. F.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

MAY 1, 1908.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XIV.—*Some Points in the Clinical Examination of Urine.*

By WALTER G. SMITH, M.D.; Ex-President, R.C.P.I.;
Physician to Sir P. Dun's Hospital.

THE kidneys are the most important depurating organs of the body, and their essential function is to maintain the mean composition of the blood at a steady level. The kidneys taste, as it were, the blood, and they adjust their selective and secreting action, by a sort of instinct, to the needs of the organism. They pick out and allow to pass, or refuse to allow to pass, out of the blood this or that substance, and so maintain the due equilibrium which is essential to health. It appears, therefore, that urinary examination deals with a wide field in physiology and pathology, and we can view its relations under many aspects.

In the present communication I propose to consider some of the commoner and practically important *data* in reference to the clinical examination of urine, and wish especially to lay stress upon the conditions of solubility which so plainly control the formation and appearance of urinary sediments and concretions.

URINE.

Urine is essentially a weak saline solution of urea (= about 2 per cent.).

Salts are composed of a basic radical in union with an acid radical; and, taking a general view of the subject, we find that urine includes :—

I. Six basic radicals = *B*—

(1) Potassium	...	K ⁺
(2) Sodium	...	Na ⁺
(3) Ammonium	...	(NH ₄) ⁺
(4) Calcium	...	Ca ⁺⁺
(5) Magnesium	...	Mg ⁺⁺
(6) Urea ⁺	...	$\overline{\text{U}}$

II. Six acid radicals = *A*—

(1) Chlorine	...	Cl ⁻
(2) Phosphoric	...	PO ₄ ^{'''}
(3) Sulphuric	...	SO ₄ ^{''}
(4) Carbonic	...	CO ₃ ^{''}
(5) Oxalic	...	C ₂ O ₄ ^{''}
(6) Uric	...	$\overline{\text{Ur}}$ ^{''}

The important groups of salts are six in number :—

- (a) Chlorides.
- (b) Phosphates.
- (c) Urates.
- (d) Sulphates.
- (e) Carbonates.
- (f) Oxalates.¹

All the ordinary salts of the urine result from interaction of the above two groups of radicals. General formula = *B A*. A "normal" (neutral) salt is one in which the chemical values (Valency) of *B* and *A* exactly counterbalance each other—*e.g.*, KI, AgNO₃, CaSO₄. Some of these salts are soluble under all conditions—*e.g.*, the chlorides—and consequently never occur as sediments or concretions. Other salts are insoluble, or sparingly soluble, under certain conditions (alkalinity or acidity), and are, therefore, to be met with clinically as deposits from urine before or after it is passed, and may lead to the formation of gravel or stone in the urinary passages.

Hence it follows that an accurate knowledge of the relative

¹ *Fechuap* (uric acid) should also be included.

solubilities of the various possible salts is absolutely essential to a clear comprehension of the clinical phenomena presented by urine.

These solubilities can be expressed in a few simple, general rules, which should be thoroughly grasped and committed to memory. Once this is effectually done many difficulties which beset the beginner will vanish.

A short clinical catechism has been drawn up, which embraces most of the ordinary points with which every student and practitioner should be familiar.

The explanatory notes which follow will readily supply the answers to the questions.

URINARY CATECHISM.

1. What is the nature of the precipitate produced by adding a few drops of liq. potassæ and liq. ammoniæ, respectively, to urine?

2. What will happen when urine is treated with a few drops of HCl and allowed to stand?

3. What is the nature of the precipitates afforded by adding to urine, respectively:—

(i.) Ag NO₃,

(ii.) Lead lotion,

(iii.) Liq. ferri perchloridi?

4. How would you test urine for:—

(a) Chlorides,

(b) Sulphates,

(c) Phosphates,

(d) Carbonates,

(e) Uric acid in solution?

5. What urinary sediment alone is redissolved upon warming? What inorganic salts may be thrown down upon boiling urine?

6. What is the composition of:—

(a) White gravel,

(b) Red gravel (red sand),

(c) Mulberry calculus?

7. What are the causes of the usually acid reaction of normal urine?

8. Why is normal urine sometimes neutral or alkaline in relation to litmus? Why is it sometimes amphoteric in reaction?

9. How would you distinguish between a phosphatic and an albuminous precipitate produced by heat alone?

10. How would you identify a calculus consisting of or including calcium oxalate?

11. What inorganic salts never occur in sediments or calculi? Why?

12. What is the commonest and most voluminous inorganic deposit from urine? What is the effect of treating it with liq. potassæ or liq. sodæ?

13. What acid is often deposited in the free state from urine? What would be the effect of treating this deposit with liq. potassæ? In what form does most of the uric acid occur in urine?

14. What salts of the alkali-metals are never found in urinary sediments, and why?

15. What is the chemical nature of the more common urinary calculi and concretions? What is the most insoluble salt met with in urine?

16. Give a simple scheme for the qualitative analysis of urinary calculi?

17. What free acid radical occurs in solution in urine?

18. How may it affect the solubility of certain salts?

19. What deposits are liable to form, respectively, in:—

(a) Highly acid urine,

(b) Alkaline urine (fixed alkali; KOH, NaOH),

(c) „ (ammonia, volatile alkali)?

20. What is the average amount excreted daily of:—

(i.) Urea,

(ii.) Chlorides,

(iii.) Phosphates?

21. What is Offer's colour test for uric acid in solution?

22. Which of the acid radicals in the urine arise:—

(a) Chiefly from the food directly (exogenous),

(b) Chiefly from chemical processes within the body (endogenous)?

23. Which of the urinary salts may cause turbidity :—

(a) In warm freshly passed urine,

(b) In urine which has cooled, and stood for a time ?

24. What salt may be deposited whether the urine be acid, neutral, or alkaline in reaction ?

25. Which of the urinary sediments are readily dissolved by :—

(a) Dilute acids,

(b) Solutions of alkalies ?

26. What may be the nature of the iridescent film sometimes observed on the surface of urine ?

27. Under what circumstances may a mixed precipitate of urates and phosphates arise ?

28. What is the nature of the white precipitate observed when strong alcohol is floated on normal urine ?

EXPLANATORY NOTES.

Chlorides.—Nearly all metallic chlorides are soluble. Exceptions :—

(a) Very insoluble—calomel (Hg_2Cl_2), AgCl , and NH_2HgCl (white precipitate).

(b) Sparingly soluble—lead chloride, PbCl_2 .

None of the insoluble chlorides occur normally or pathologically in urine.

Silver chloride is insoluble in nitric acid, but silver phosphate is soluble in acids, hence the addition of silver nitrate + nitric acid (to keep silver phosphate in solution) is the usual precipitation test to detect soluble chlorides in the urine. $\text{AgNO}_3 + \text{NaCl} = \text{NaNO}_3 + \text{AgCl}$.

Albumen, when present, must first be removed by filtration, after boiling and acidifying with acetic acid, because albumen is precipitated both by AgNO_3 and by HNO_3 .

In acute fevers, and especially in the early stages of acute pneumonia and pleurisy, the chlorides in the urine are often markedly diminished or suppressed for a time, returning with convalescence. The significance of this is not well understood. A consolidated pneumonia lung locks up a considerable amount of chlorides of K and Na.

Sulphates.—Nearly all normal metallic sulphates are soluble in water; insoluble in alcohol. Exceptions: Sulphates of Ba, Sr, and Pb. Hence any soluble salt—*e.g.*, lead acetate, lead lotion—of any of these three metals will give a precipitate with normal urine. Solution of barium chloride (+ HCl to prevent co-precipitation of barium phosphate) is the usual test for sulphates. For BaSO_4 is very insoluble in water, and is also insoluble in dilute acids. Hence a soluble Ba salt constitutes the most delicate test for SO_4 . But lead lotion will answer fairly well for clinical use. One-tenth of the total SO_4 in urine exists as ethereal sulphates, which are not precipitated by Ba. Radium sulphate is even more insoluble than BaSO_4 .

Carbonates.—Urine contains a little free CO_2 . The urinary carbonates are derived from oxidation of the carbon of food and of tissue waste. Nearly all *normal* metallic carbonates are *insoluble*, except those of the alkali metals, hence no carbonate of an alkali metal can occur in a sediment or calculus. Calcium and magnesium carbonates, being insoluble, are not infrequent in urinary sediments, deposited from neutral or alkaline urine, and associated with calcium and magnesium phosphates. The carbonate sediment is readily distinguished by its solubility, with effervescence (CO_2), in dilute acids, even acetic. Calculi of CaCO_3 are rare in man. The *acid* (bi-) carbonates of Ca and Mg are soluble. Some clear urines contain sufficient soluble carbonates to cause evolution of bubbles of CO_2 , upon addition of acetic acid, in the cold. Normal urine when boiled for some time may become alkaline owing to formation of $(\text{NH}_4)_2\text{CO}_3$ by hydrolytic decomposition of urea. Acetates, tartrates, and citrates of alkalis are partly excreted in urine as carbonates, and render it alkaline in reaction—an important therapeutical fact. Putrid urine is strongly alkaline owing to production of ammonium carbonate from bacterial decomposition of urea.

Calcium Oxalate.—Physiological origin of oxalates—

- (a) *Exogenous*, from food, especially certain vegetables, probably the major part;
- (b) *Endogenous*, metabolism of proteins, and possibly also carbohydrates.

may occur in alkaline, neutral, or highly acid urine. The only insoluble urinary oxalate is calcium oxalate. Under ordinary diet the daily quantity is under 0.2 gm. The quantity of calcium oxalate in a sediment (never a massive one) is far from being a measure of the actual amount of oxalic acid in the urine. Distinctive test for an oxalate sediment or calculus (hempseed, mulberry calculus):—(1) The finely powdered calculus dissolves in HCl (cold) without effervescence; (2) Heat the powder to low redness. This converts the oxalate into Ca carbonate, which dissolves *with* effervescence in dilute acids— $\text{CaC}_2\text{O}_4 = \text{CaCO}_3 + \text{CO}$. The commonest and most characteristic crystalline form is that of lustrous octahedra, varying much in size; sometimes it occurs as quadrangular, or discoid, or constricted (dumb-bell) forms.

Oxalates of Mg and of the alkali metals are soluble, and never occur in sediments or calculi.

Phosphates.—A *small* quantity of phosphoric acid is produced by oxidation of the phosphorus in proteids (endogenous). The greater part is derived from the food (exogenous). There is therefore no demonstrable relation between the very variable amounts of phosphoric acid excreted, and tissue metabolism, normal or pathological (*e.g.*, in neurasthenia, brain diseases, &c.), although this has been repeatedly asserted, and is confidently accepted by some. All *normal* (tribasic) phosphates are *insoluble*, except those of the alkali metals, hence if a solution of a salt of any other metal (*e.g.*, Fe, Ag, Pb, Cu, &c.) be added to urine it causes a precipitate of the phosphate of that metal.

Acid (mono- and bi-metallic) phosphates are usually readily soluble in water; insoluble in alcohol. A little free acid, even acetic, will keep in solution, or will redissolve, many insoluble phosphates—*e.g.*, of Ca and Mg. The grey precipitate of ferric phosphate is not redissolved by acetic acid. Hence (a) the necessity for adding a free acid—*e.g.*, HNO_3 (of course, not HCl)—in testing for chlorides by AgNO_3 , to prevent co-precipitation of silver phosphate. (b) Conversely, an alkaline condition of the urine favours precipitation of phosphates of Ca and Mg. Freshly passed alkaline or neutral urine of

healthy persons may be turbid from precipitation of calcium and magnesium phosphates independently of any excess of these salts. This is quite unimportant, yet often occasions needless alarm. It is at once cleared by addition of a few drops of acetic acid.^a (c) In Gerhard's test for aceto-acetic acid (red colour, with liq. ferri perchloridi) a muddy grey precipitate of ferric phosphate is first formed. This should be filtered off, and then a few drops (additional) of liq. ferri perchloridi added to the clear filtrate. (d) Nearly every urine yields a white precipitate of Ca and Mg phosphates upon the addition of excess of alkali (liq. potassæ, liq. sodæ, liq. ammoniæ). In the case of ammonia the precipitate will also include ammonio-magnesian phosphate. Each of these precipitates is readily soluble in dilute acetic acid. Phosphatic calculi are usually composed of a mixture of calcium and magnesium phosphates, along with ammonio-magnesium phosphate, and the mixture is known as *fusible calculus*. We see, then, that phosphates occur in urine:—

(a) As phosphates of alkalis only. These are soluble under all conditions; therefore never found in sediments.

(b) Phosphates of Ca and Mg (alkaline earths,^b often abbreviated to "earthy" phosphates).

These latter remain (i.) in solution; (ii.) or are precipitated according to circumstances—*e.g.*, temperature and degree of acid reaction of urine. Many urines (if not highly acid) afford, when boiled, a precipitate of Ca and Mg phosphates. This closely resembles coagulated albumen, but is at once distinguished by its ready solubility in dilute acids. Moreover, it redissolves, wholly or in part, by simply cooling the urine—*e.g.*, it is a thermal reversible reaction. Ammonio-magnesium

^a Distinction from cloudiness due to large numbers of bacteria (bacteriuria). If carbonates of Ca and Mg contribute to the cloudiness they will dissolve with effervescence by addition of acetic acid. Turbid purulent urine is necessarily albuminous.

^b A survival from an old-fashioned classification of the common bases into—1. *Alkalies*, Caustic: very soluble (*e.g.*, potash, soda, ammonia); 2. *Earths*, not irritant: insoluble; alumina (Al_2O_3). 3. *Alkaline earths*. Intermediate in characters between (1) and (2)—*e.g.*, lime (CaO) and magnesia (MgO).

phosphate is often known by the inappropriate and misleading name of "triple phosphate."

The usually acid reaction of normal urine is due, not to any free acid (as shown by several tests—*e.g.*, Congo red paper), but to the presence of a relative excess of the *acid* (or mono-metallic) phosphates of Na, K, and Ca and, possibly in some measure, other acid salts. The free administration of acid phosphate of Na (NaH_2PO_4) is the surest, quickest, and pleasantest way of keeping urine acid—*e.g.*, after operations on the bladder (R. Hutchison).

Under the microscope, phosphates appear as :—

- (i.) Amorphous granules— $\text{Ca}_3(\text{PO}_4)_2$. $\text{Mg}_3(\text{PO}_4)_2$.
- (ii.) Bundles or rosettes of wedge-shaped prisms ("stellar phosphate"). These crystals (CaHPO_4) are found (a) in sediments, (b) floating on surface of the urine, and giving rise to iridescence often along with—
- (iii.) Large lustrous prisms with oblique terminal faces; ammonio-magnesium phosphate (coffin-lid, sarcophagus, or chandelier-drop) crystals. All these forms are readily soluble, without effervescence, in acetic acid. (Distinction from uric acid, urates, and carbonates.)

The only crystals large enough to be recognised as such by the unassisted eye (or by a simple pocket lens) are :—

- (a) Ammonio-magnesium phosphate, colourless prisms sparkling like diamonds under a bright light. Urine neutral or alkaline.
- (b) Uric (lithic) acid. Usually coloured yellow or reddish. Urine markedly acid.

Urates (Lithates): Uric Acid.—Uric acid, being feebly dibasic ($\text{H}_2\bar{\text{U}}$), forms two classes of salts—viz., normal urates ($\text{M}_2\bar{\text{U}}$) and acid (bi-) urates ($\text{MH}\bar{\text{U}}$). The normal salts are very unstable, and *do not occur in the body*. They are very soluble, and are artificially produced whenever either free uric acid or acid urates are treated with excess of any caustic alkali—*e.g.*, liq. potassæ.

The acid (bi-) urates of the alkali metals (chiefly sodium)

are sparingly soluble in *cold* water, but are quickly redissolved by a gentle heat, short of boiling. No other urinary deposit is thus redissolved by warmth.

It is doubtful if free uric acid occurs in fresh urine because coloured indicators which are sensitive to free uric acid give no indication of its presence as such in freshly passed urine (Hopkins)..

The majority of urinary calculi are chiefly composed of, or contain, uric acid (free), or urates. Ammonium urate occurs in concretions of infants and young children, and in urine alkaline from decomposition. A considerable deposit of red urates is common in cases of cirrhosis of liver. A copious deposit of urates is not a proof, as sometimes imagined, of an *increased excretion* of uric acid, for whether a uratic precipitate falls down or not depends upon several factors, viz. :—

(a) Temperature. A low temperature favours precipitation of urates, hence the greater frequency of uratic precipitates in winter.

(b) Concentration of the urine—*i.e.*, the amount of aqueous solvent. Richness in urinary pigments and in neutral salines inhibit the precipitation of urates.

(c) The reaction of the urine.

Ay inclination to increased acidity favours precipitation of urates, and a *single drop* of dilute acetic acid, or nitric acid, added to a test tube full of clear urine, will often render it quite opaque from precipitation of urates (redissolved upon warming : distinction from albumen). The reaction of urine to litmus depends upon the relative proportions of the monosodic phosphate ($\text{Na H}_2\text{PO}_4$ reacts acid), and of the disodic phosphate ($\text{Na}_2 \text{HPO}_4$ reacts alkaline).

If the amounts of these two salts duly balance, the reaction of the urine may be *unperturbed*—*i.e.*, it will slightly blue red litmus and slightly redden blue litmus paper.

Colour test for uric acid (or urates) in solution in urine :—Make the urine alkaline with a few drops of liq. potassæ, and add a little solution of yellow phosphomolybdic acid. A rich dark blue colour is developed (Offer's test).

ART. XV.—*Epidemic Diarrhœa and its Influence on Infantile Mortality*.^a By THOMAS OTTIWELL GRAHAM, M.D., Sen. Mod., B.A., Univ. Dub.

ONE hundred and thirty-three infants of every thousand born do not survive to commemorate the anniversary of their first birthday, or, roughly, on average, of one in seven dies before it is twelve months of age. Such are the appalling statistics which confront us in the Registrar-General's Report for England and Wales for the year 1906. Fortunately for Ireland, such a high infantile mortality does not exist in this country; for we find in the Registrar-General's Report for Ireland for the same year that the rate is only 23 per 1,000. In this paper I intend to deal with one of the most potent factors which contributes so largely to the infantile mortality of this country.

I refer to epidemic or summer diarrhœa, a disease which accounts for about 15 per cent. of the deaths of infants in the first year of life.

Epidemic diarrhœa is, in the majority of cases at least, due to infection of the food of the infant, and occurs mainly in artificially-fed babies. This infection of the milk—the infant's main source of nutrition—is generally brought about by the carelessness, ignorance, and neglect of the mother with regard to her offspring; but we shall have to consider also the conditions which favour this infection.

Diarrhœa is a symptom of many diseases, but the term "epidemic diarrhœa" is applied to those acute specific attacks of diarrhœa which always occur in young children towards the middle or close of a hot, dry summer. Ballard offers the following provisional explanation of the occurrence of epidemic diarrhœa:—

"The essential cause of epidemic diarrhœa resides ordinarily in the superficial layers of the earth, where it

^a Being a Thesis for the Degree of M.D. in the University of Dublin, February, 1908.

is intimately associated with the life processes of some micro-organism not yet detected.

"The vital manifestations of such micro-organism are dependent, among other things, perhaps principally upon conditions of season, and on the presence of dead organic matter which is its pabulum.

"On occasions such organism is capable of getting abroad from its primary habitat, the earth, and having become air-borne obtains opportunity of fastening on non-living organic material, and of using such organic material both as nidus and as pabulum in undergoing various phases in its life history.

"In food, inside as well as outside of the human body, such micro-organism finds, especially at certain seasons, nidus and pabulum convenient for its development, multiplication, and evolution.

"From food, as also from the contained organic matter of particular soils, such micro-organism can manufacture by chemical changes wrought therein through certain of their life processes a substance which is a virulent chemical poison.

"This chemical substance is, in the human body, the material cause of epidemic diarrhœa."

In some of these cases of so-called "ptomaïn" poisoning the *B. enteritidis* of Gärtner has been found, whilst other cases are associated with the *B. enteritidis sporogenes*—a motile, sporing, anaërobic bacillus first isolated by Klein from milk. Flexner, Shiga, Kruse, and others have also isolated and described bacilli belonging to the *B. coli* group, which are said to give rise to the diarrhœa of dysentery and of epidemic diarrhœa.

Recently, in fifteen cases out of thirty-four which he examined, Morgan has isolated a bacillus, "No. 1," which is motile, produces acid and gas in glucose broth, produces indol, and has an alkaline reaction in litmus milk, but fails to produce acid and gas in lactose broth, maltose, and dextrin—characters which suffice to distinguish it from any previously-described bacillus.

Ballard found that the summer rise of diarrhœa mortality does not commence until the mean temperature recorded by the earth thermometer, placed four feet below the surface, has attained 56° F., no matter how high the atmospheric temperature may have previously reached. The maximum diarrhœa mortality is usually observed in the week when the 4-foot earth thermometer attains its mean weekly maximum. The diarrhœa mortality declines with the 4-foot earth thermometer, which declines much more slowly than that of the atmospheric temperature, so that the mortality from diarrhœa may continue long after the air temperature has fallen, even into October and November. This was fully exemplified by our cases last summer in Sir Patrick Dun's Hospital, where during the five months, June to October, 148 cases of infantile diarrhœa were treated, thirty of which occurred in October.

Hope, in investigating the infantile diarrhœa mortality, classified infants into three classes:—(1) Entirely breast-fed, (2) partly breast-fed and partly artificially-fed, (3) entirely artificially-fed, and found that for every death from diarrhœa which occurred among breast-fed infants under three months old, fifteen occurred among the mixed class, and that for every death among the breast-fed and mixed class combined, twenty-two deaths occurred among the entirely artificially-fed infants.

These are startling results which should impress on our minds the necessity for an infant receiving its nourishment from the source which nature has provided. If for any reason this natural supply has to be withheld it is absolutely essential—in the hot summer months at least—that the milk should be administered in as sterile a condition as the mother's milk, and as nearly as possible containing similar constituents in like proportions.

The relative frequency of diarrhœa in infants can be accounted for by the fact that the sterilising power of the baby's stomach is at a low ebb, for it secretes but little HCl; hence, organisms which are swallowed with the

food stand a good chance of running the gauntlet of the stomach and setting up irritation in the intestine.

Children are fed mainly upon milk, which is anything but a germ-free fluid as supplied to them, becoming infected as it does with organisms conveyed in the dust and also by flies.

Newsholme's classical researches led him to conclude that the fundamental condition favouring the occurrence of epidemic diarrhœa is an unclean soil, the particulate poison from which infests the air and is swallowed most commonly with food, especially milk. In other words, epidemic diarrhœa is a so-called "filth disease," preventable by improved sanitation in the broadest meaning of the term.

The prevalence of infantile diarrhœa and the mortality therefrom is much higher in urban than in rural districts. Moreover, they vary widely in different urban districts. This difference is dependent upon many factors, among which may be mentioned:—

(1) Density of population and houses.

(2) Lack of proper ventilation in congested districts.

(3) Lack of cleanliness—thus those towns which have adopted the water-carriage system of sewerage have less diarrhœa than towns with other systems of removal of sewage.

(4) Foul air from sewers and cesspools.

(5) The variety of soil. The diarrhœa mortality is lowest in places built on rock, and highest where the soil is loose and porous. Organic pollution, whether from made ground or from leaky drains, increases the mortality.

Dampness of soil, as distinguished from saturation, is favourable to the prevalence of diarrhœa. The effect of temperature of the soil has been already considered.

(6) Rainfall reduces the diarrhœa mortality by virtue of its cleansing effect upon the atmosphere, by laying the dust, and by its reducing effect upon the temperature of the soil and of the atmosphere.

(7) Social position has a marked influence on the inci-

dence of diarrhœa. The lower labouring classes suffer most, probably because the infants are more neglected. The food is stored in unclean utensils and the mothers are employed in industrial occupations a circumstance which necessitates the artificial feeding of the infant.

Having thus far considered the prominent ætiological factors in the causation of epidemic diarrhœa, let us now briefly survey the common symptoms which we meet with in this fatal disease. We will then discuss the treatment and preventive measures which should be adopted with a view to removing epidemic diarrhœa from the ranks in the van of the legion of fatal diseases of infants, who are the recruits of the human army, destined, if not annihilated by the ravages of this dread scourge, to fight the battles of life in their generation.

The mother generally introduces the infant with the two familiar and expressive words—"purging" and "vomiting."

The motions are usually of a green colour, probably from the presence of biliverdin, though McFarland states that the presence of the *B. pyocyaneus* is the cause of the green colour in some cases at least.

The fæces are usually slimy from the presence of mucus, the result of the enteritis, and generally contain masses of undigested proteid (casein) and fat. They frequently have an offensive odour. The vomit has a sour smell, and in the majority of cases contains masses of curdled milk. The diarrhœa and vomiting produce such a continued drain on the child's tissues that wasting sets in. The infant wears an anxious, aged, and wizened aspect. The eyes become large and staring. The skin may be inelastic owing to defects in the elimination by the kidneys leading to suppression of urine.

The temperament changes from one of comfort and contentment to an irritable, fretful, and whining disposition, the result of the pain which is produced by the exaggerated peristalsis of the bowel. The abdomen may be distended with flatus. Convulsions frequently ensue,

particularly in infants with a rickety diathesis. Collapse sets in, followed by death in many cases—a fine, healthy, robust infant often vanishing almost to a shadow, and becoming nothing but skin and bone within a few days of the onset of the first symptom.

How are we to treat an infant which is brought to us suffering from these symptoms? There are two chief indications:—(1) Change the bowels—*i.e.*, purge to eliminate the cause; (2) change the diet—*i.e.*, starve, to provide no further pabulum for the bacteria.

An infant of such a tender age as less than twelve months, and in such a condition as I have attempted to depict, is but poorly armed to withstand the strain of starvation unless it is kept perfectly warm and supplied with plenty of liquid. But if the vomiting is persistent all food, particularly milk, should be stopped for twenty-four hours. The baby should, however, be encouraged to drink plenty of boiled water, or a weak decoction of barley water, or even a little albumen water, which is simply the white of an egg mixed well in about half a pint of cold water. As the symptoms abate a little whey may be administered with the albumen water, but the return to the full milk diet should be gradual, owing to the disturbing influence which the casein exerts on the child's intestine. In order to overcome the difficulty of the digestion of the casein it is sometimes recommended to peptonise the milk: but this has the baneful effect of depriving the stomach of its normal function of secreting pepsin, and should, in consequence, not be persisted in for too long a period.

Regularity of feeding must be strictly observed. No baby at any age should be fed more frequently than once every two hours. From the second month onward the interval may be increased to three hours. In the first week a baby requires only about one ounce of milk at each feed, for the next month two ounces, and for the succeeding four months the quantity should be increased by one ounce each month.

Cow's milk differs from human milk in containing more proteid, more fat, and more salts, but less carbohydrate (lactose). Moreover, the casein of cow's milk coagulates in large clots, unlike the flocculent coagulation of human milk.

In order to modify cow's milk so as to bring it approximately to the standard of human milk it is necessary to dilute it and add milk sugar. A little cream should also be added, since the dilution reduces the fats to below par. Lime-water may with advantage be employed as the diluent in the place of the ordinary water, since it makes the milk clot in a flocculent manner instead of in curdled masses. Moreover, the lime-water helps to neutralise the acidity which distinguishes cow's milk from human milk. The milk should be given in an "Allenbury's" boat-shaped bottle with a rubber teat, but without the old-fashioned long tube. Artificial foods should be avoided.

If the diarrhœa resists all our efforts of artificial feeding the services of a wet-nurse should be procured where possible.

So far we have not had recourse to drugs; but with a view to following out our second indication for treatment—viz., elimination—we generally commence with the administration of a drachm of castor oil, followed, if necessary, by half-grain doses of grey powder.

This purgative treatment of diarrhœa at first sight appears to be paradoxical and contraindicated, but when we consider that in the majority of cases the diarrhœa is due to the presence of curdled and decomposing masses in the intestines we understand the *rationale* of throwing fuel on the fire to put it out. In many cases the elimination may be equally well effected by washing out the stomach and by the employment of enemata.

Intestinal antiseptics, such as salol and salicylate of bismuth, are often efficacious if the motions still continue after free purgation.

Intestinal sedatives, such as subnitrate of bismuth and chalk mixture, are constantly given, but it is quite use-

less to administer these sedatives until the exciting cause of the diarrhœa has been expelled by free purgation.

As regards the administration of opium, which is contained in so many of the "teething powders" and "soothing syrups" at present on the market the greatest caution should be exercised.

Hutchison gives some useful rules to guide us in its use :—

(1) Never give opium at the outset before the bowels have been well purged.

(2) Never give opium while the tongue remains furred.

(3) Never give opium if there are signs of collapse.

(4) You may give opium if the motions remain frequent and contain blood and mucus, and are accompanied by much straining.

(5) You may give opium if the motions are offensive and the tongue is clean, for in this case the contents of the small intestine are precipitated onwards by the exaggerated peristalsis, and putrefaction occurs.

(6) You may give opium if the diarrhœa is of the lienteric type—*i.e.*, if the motions occur immediately after each feed.

In any case opium must be administered in very minute doses and only occasionally, as $\frac{1}{2}$ -gr. of Dover's powder or 1 m of laudanum.

If the child becomes collapsed a hot bath to which a little mustard has been added will often help to revive him. Sips of brandy and small doses of other stimulants, such as spirits of camphor, should be administered at the same time.

As preventive measures to combat the occurrence of epidemic diarrhœa Ballard has proposed nine sanitary reforms. We cannot now consider the methods by which these reforms are being carried out; but, with two exceptions, giant strides have been made towards the completion of these reforms, and yet epidemic diarrhœa is still increasing. The proposed reforms are :—

- (1) Protection of food, particularly milk, from infection.
- (2) Improvement of domestic and social hygiene.
- (3) Removal of filth from the soil.
- (4) Sealing of the soil around dwellinghouses.
- (5) Free ventilation about dwellings.
- (6) Prevention of soil emanations.
- (7) Improved drainage and sewerage.
- (8) Lowering of the subsoil water.
- (9) Advance in general sanitation.

Reform has been brought about in all except the first two. The milk should be protected from dirt at the dairy farms as well as in the home. In summer, at least, the milk should be sterilised or pasteurised. The feeding-bottles should be scalded after each feed. The old-fashioned feeding-bottles with long tubes should be abolished, for they are very difficult to keep clean.

It is only by attention to such preventive measures as I have mentioned that the prevalence of epidemic diarrhœa is likely to be checked and the infant mortality of our country diminished.

ART. XVI.—*Ocular Manifestations of Syphilis.*^a By THOMAS JAMES TOWNSEND WILMOT, M.D., B.A., Univ. Dubl.; House Surgeon, Warneford Hospital, Leamington, Warwickshire.

THAT syphilis affected the eyes was known in the earliest times. Hippocrates mentions "moist, chronic, and painful ophthalmias, granulations on the inner and outer surfaces of the eyelids, which are called fics," in describing a disease which must have been what we now know as syphilis. No accurate or detailed description of the different conditions was possible until modern times.

"Ophthalmia" was the term in use at the beginning of last century for all visible affections of the eyes, and "amaurosis" was applied to other affections which produced blindness.

^a A Thesis read for the Degree of M.D. in the University of Dublin, February, 1908.

Helmholtz's invention of the ophthalmoscope in 1851 led the way for fresh and more accurate knowledge of all affections of the interior of the eye. This in turn caused more attention to be paid to external diseases of the eye also.

Syphilitic affections of the eye may be divided into those which are the direct consequence of the infection and those which are due to syphilitic disease of the brain, or other parts more or less intimately connected with the eye.

Under the first heading we will mention the lesions of the various parts in anatomical order.

The Eyelids.—Primary syphilitic sores may occur, and these are usually situated at the margin of the upper or lower lid or near the outer or inner canthus. The usual method of infection is from kissing, or from a dirty finger. The sore is generally of the usual syphilitic kind occurring elsewhere, but occasionally no ulcer is present, the lid becoming swollen, indurated, purple and shiny, and the pre-auricular and sub-maxillary glands also become enlarged. The diagnosis is then very difficult, and may not be possible until constitutional symptoms develop. Any ulcer present should be treated by sublimed calomel with a fumigator.

Secondary syphilitic ulcers usually form on the margins of the lids, and cause "madarosis," or falling out of the eyelashes. Syphilitic skin affections may involve the eyelids as in other parts of the body. A gumma forms a small roundish tumour somewhat painful to the touch and causing a certain amount of inflammation of the lids. It may be mistaken for a chalazion or hordeolum. It frequently involves the conjunctiva and eyelashes. If it attacks the tarsal cartilage there is usually a great deal of swelling of the lid, which yields very slowly to treatment.

The Conjunctiva.—Syphilitic lesions of the conjunctiva are usually due to extension of the disease from the eyelids, but rare cases have been noted of primary, secondary, and tertiary lesions on both the palpebral and bulbar conjunctivæ. A gumma is usually on the bulbar conjunctiva near the limbus, and may resemble a malignant growth.

The Cornea.—Parenchymatous or interstitial keratitis is

always due to syphilis, and is a fairly common complaint. It is nearly always due to congenital syphilis, though some cases of it in the acquired variety have been seen. The usual general symptoms can be made out as a rule—Hutchinson's teeth, rhagades, shape of head and face, flattened nose, with a foul discharge, &c.

The age of onset is usually about puberty, and this will account for it being so rarely seen in acquired syphilis, as the latter is very rare before this period. It is occasionally seen in adults.

It commences as a light greyish opacity at some part of the corneal margin, with some ciliary congestion. Opacities then form at other parts of the margin, and all gradually extend towards the centre. In other cases the opacity may start at the centre and spread to the margins. The opacity lies in the deep layers of the cornea which are embryologically connected with the uveal tract, hence the involvement of the latter as iritis, cyclitis, irido-cyclitis, and chorioiditis. Along with the opacity in the cornea vessels form in the posterior layers, which may be small and not visible to the unaided eye, though usually large, and occurring in patches, giving rise to the well-marked "salmon patch." When the opacity has extended over the whole surface of the cornea it begins to clear up at the margins, the central part at first becoming more opaque than before, and later gradually clearing up more or less completely. Both eyes are always affected, but not always at the same time or to the same extent.

Treatment consists in the use of atropin drops, hot fomentations, or the Japanese hot box, and a bandage in the early stages. Later, irritants may be employed to stimulate absorption of the opacity, such as yellow oxide of mercury ointment, with massage of the cornea.

General treatment is carried on at the same time, mercury being administered in some form, as pil. hydrarg. cum cretâ, inunctions, or in combination with potassium iodide and bark. In mild cases tonics, such as cod liver oil and iodide of iron, may be used instead of mercury.

Gumma of the cornea is a very rare condition.

Sclerotic.—Episcleritis is a somewhat rare condition, and in some cases occurring in patients with a syphilitic constitution it is thought to be due to this.

Deep scleritis may also be due to congenital syphilis. This form is more dangerous to sight, as it may extend to the inner coats of the eyeball, producing iritis, cyclitis, chorioiditis, opacities in the vitreous, &c. It may also cause an "ectasia," or bulging of the globe, at the diseased part. An infiltration also frequently develops deep in the cornea, leaving a permanent opacity known as "sclerosing keratitis."

Gumma of the sclerotic occurring on the outer side of the eye is a rare condition.

Iris.—It is stated that more than half of the cases of iritis are due to syphilis, and that iritis constitutes from one-half to two-thirds of the eye affections due to this disease.

Jonathan Hutchinson asserts that all well marked examples occur in the secondary stage, usually from three to six months after the primary chancre. Fuchs, on the other hand, mentions cases which occur in the later stages, but these are not usually of the typical condylomatous kind. Exceptional cases where nodules form in the iris in the later stages of the disease, Fuchs regards as gummata. They may attain great dimensions and lead to destruction of the eye. In congenital forms of this disease iritis is frequently associated with interstitial keratitis. In some cases the iritis may be more marked than the keratitis. The typical form of syphilitic iritis is characterised by the appearance of one or more small nodules or condylomata of a yellowish colour, the rest of the iris remaining intact. They are most frequently situated at the pupillary margin, occasionally at the ciliary margin, and never in the intermediate zone. In very many cases this typical form is not present, at least the condylomata cannot be discovered by the unaided eye, or even with the corneal microscope. Many ophthalmologists hold that in most cases of syphilitic iritis condylomata are present.

Recurrent attacks are very common. Various complications are also common, such as posterior synechiae, which may be complete, causing occlusion and seclusion of the pupil and

secondary glaucoma, chronic irido-cyclitis and chorioiditis leading to atrophy of the globe, detachment of the retina, and secondary cataract.

Treatment consists in the free use of atropin, dark glasses, or a bandage and a leech to the outer canthus locally, and generally the administration of mercury and iodide of potassium. Cinchona bark in large doses is also useful at times. An iridectomy performed at a quiescent period often prevents recurrent attacks in such cases when extensive synechiæ are forming.

Ciliary Body.—Cyclitis always occurs as a part of a syphilitic irido-cyclitis. A bad attack in one eye may cause sympathetic disease in the other.

Chorioid.—Both acquired and congenital syphilis may cause disseminated chorioiditis. In the early stages of the latter small pinkish yellow spots occur, chiefly in the periphery of the fundus, which might very easily be overlooked. Later, round white spots of different sizes, with irregular black margins, are present, or small patches of pigment, lying underneath any retinal vessels are at first only in the periphery and then gradually extending to the macular region. This may be an extension of disease from the iris and ciliary body, but often arises by itself. "Hemeralopia," or night blindness, is a common symptom.

Central chorioiditis is usually due to acquired syphilis, the macula lutea, perhaps, being the only part of the fundus involved. Absolute central scotoma is the prominent symptom.

Treatment consists in the use of dark glasses with absolute rest of the eyes, dry cupping, or the artificial leech to the temple. Sub-conjunctival injections of a 4 per cent. salt solution with aconin sometimes produces improvement. General treatment with mercury, &c., must also be used.

Retina.—Syphilitic retinitis or chorioido-retinitis may occur in acquired or congenital forms of the disease. It is often only in one eye, and comes on in the late secondary stage, nearly always being associated with disease of the uveal tract. With the ophthalmoscope, extending from the optic disc a

slight opacity of the retina is seen, which gradually gets less towards the equator of the globe. The disc is only slightly hyperæmic, and the margins are indistinct. The retinal veins may be slightly distended. Disseminated patches of chorioiditis are often present in the periphery. Complete rest of the eyes with dark glasses should be ordered and mercury and potassium iodide administered. Turkish baths are often useful.

Some authorities consider retinitis pigmentosa to be due to a syphilitic taint.

Vitreous Humor.—Dust-like opacities in the vitreous are very characteristic of syphilis, and usually occur in cases of disease of the ciliary body, chorioid and retina. They may render ophthalmoscopic examination of the fundus very difficult. They are best seen with the plane mirror of the ophthalmoscope and a weak light, the patient's eye being moved rapidly in various directions. Treatment is the same as for chorioiditis and retinitis.

Affections of the eye may also be due to syphilitic lesions external to the eye.

Ulceration of the nose may extend along the nasal duct to the lacrymal sac, setting up a condition of dacryocystitis, which often leads to a chronic conjunctivitis, and later to stricture or stenosis of the lacrymal passages. Treatment of the nasal condition is indicated.

Intracranial syphilitic conditions in the late secondary stage are a frequent cause of optic neuritis. This may be from engorgement or by direct transmission. In the former the typical "choked disc" is seen, due to an elevation of pressure within the cranial cavity from the presence of a gumma. The cerebro-spinal fluid is forced out of the cranial cavity, partly towards the spinal canal and partly into the sheath of the optic nerve. These cases are, therefore, always bilateral. The œdema of the optic nerve sooner or later presses on the central vein, thus producing engorgement of the blood vessels of the disc, and causing the papillitis or choked disc. This is, therefore, really less of an inflammatory condition than an œdema due to intracranial pressure.

The optic nerve may be attacked by the syphilitic affection

directly or owing to the development in the cranium or orbital cavity of inflammations or tumours resulting from syphilis involving the nerve secondarily. The neuritis is then less intense than the form above mentioned, and may be unilateral. A tumour or inflammation in the orbital cavity is likely to produce proptosis as well.

The disturbance of vision in these cases varies greatly, an intense papillitis sometimes being seen with very little loss of vision; but later the loss of vision is usually considerable, and even total.

Treatment consists in the generous use of mercury and iodide of potassium. The prognosis is much better in optic neuritis due to syphilis than when due to other diseases.

Atrophy of the optic nerve may be primary, occurring in diseases due to syphilis, such as locomotor ataxia or general paralysis of the insane. In the former, if developing before the ataxy, there seems to be an antagonism between the optic atrophy and the other tabetic symptoms, as first pointed out by Benedikt of Vienna, the pains becoming less severe and the ataxy not developing.

Secondary atrophy may follow—(a) optic neuritis; (b) from pressure of a syphilitic tumour of the orbit; or (c) from syphilitic chorioiditis or chorioido-retinitis. Treatment consists in general measures—the administration of mercury and iodide of potassium, the artificial leech to the temple, rest, dark glasses, and later strychnine internally, and the galvanic current.

Paralysis of the muscles of the eye may be due to a syphilitic lesion affecting either the motor nerves in some part of their course or their nuclei. When the nerve is involved the lesion is generally due to gummata of the basal dura mater involving the nerve trunk either secondarily or by pressure. The third, fourth, and sixth nerves are thus very apt to become implicated.

A syphilitic lesion of the pons, corpora quadrigemina, cerebral peduncles, or cerebellum may cause paralysis; but these are not common.

The symptoms vary according to the seat of the lesion and

the nerve or nerves implicated. Diplopia is a marked symptom. When the paralysis attacks the third nerve, which supplies the levator palpebræ, the sphincter iridis, the ciliary muscle, and all the external muscles of the eye, except the superior oblique and external rectus, we get ptosis, dilated pupil, and the eye looking outward. Paralysis of the sixth nerve causes inability of the eye to move outward, and diplopia on attempting to do so. Most cases of oculomotor paralysis are limited to a branch of the third nerve, and if in addition optic neuritis or optic atrophy is present a syphilitic intracranial lesion is indicated. Paralysis of the facial nerve may cause lagophthalmos or inability to close the eyelids.

In tabes dorsalis the Argyll-Robertson pupil is an important symptom, the pupil reacting to accommodation, but not to light. A nystagmic condition called ocular ataxy is sometimes present. It does not occur at rest, but only when the eye is brought into use. Paralysis of the various eye-muscles may occur in this disease, either transient—which may recur—or permanent. Mention has already been made of optic atrophy in association with locomotor ataxia.

In general paralysis pupillary changes, paralysis, and optic atrophy may occur, unequal pupils being an early and common symptom. The Argyll-Robertson pupil is also common in this disease.

THE AWAKENING OF THE PUBLIC.

THE Bohemian Football Club, Dalymount Park, Dublin, adopted the following resolution on February 28, 1908 :—"That we hereby call upon our members and supporters to help the drapers' assistants of this city in their endeavour to secure a weekly half-holiday on Saturday, as in our opinion participation in some of the manly games indulged in by other workers on Saturday afternoon would do much to dispel the dread disease of tuberculosis, so prevalent amongst shop-workers, and to give practical effect to this resolution we appeal to all lovers of outdoor sports to refrain from shopping on Saturdays, and influence their friends to do likewise."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Manual of the Practice and Theory of Medicine. By SIR WILLIAM WHITLA, M.A., M.D.: Professor of Materia Medica and Therapeutics in Queen's College, Belfast. Vols. I. and II. London: Henry Renshaw. 1908. 8vo. Pp. 1900.

SIR WILLIAM WHITLA has already earned the right to a place among the writers on Medicine by his well-known manual "A Dictionary of Treatment," which is now in its fourth edition, and to which the present work is to be looked on as an introduction. This method of writing on medical subjects Sir William Whitla has made peculiarly his own, and, if one may judge from the past, the present work is likely to enjoy a considerable circulation.

The aim of the Manual before us is, as our author tells us, to present to the busy practitioner a series of monographs in a condensed form dealing with the different diseases which come within the province of the physician, and for facility of reference these monographs are arranged in alphabetical order. Such an arrangement, no doubt, has advantages from the point of view of the "busy practitioner," but it is an arrangement to which very serious objections may be raised. In our opinion it is quite unsuitable for the student, for whom the ordinary text-book form in which diseases are grouped according to their natural affinities is much more suitable. And most of us, even when in busy practice, retain sufficient of our student habits to feel upset by an arrangement which necessitates the description in consecutive sections of the same book of such diseases as "Dementia," "Dengue," and "Dermatitis." In making these remarks we are merely expressing our own opinion as to the form of the book, and quite recognise that our author has had ample justification from the

experience with his former works of assuming that there are many who do not share this opinion.

As regards the matter of the book, the descriptions of the different diseases are mainly founded on the large clinical experience of the author, and consequently have a practical value and freshness which are often so conspicuously absent in a mere compilation. It is always instructive to read a clinical description of a disease that has been written by a careful observer of wide experience, and in the volume before us there are many such descriptions. In addition to these excellent clinical descriptions, the author's wide experience has enabled him to give much useful information on the subjects of treatment and prognosis. In dealing with the latter point the author relies almost entirely on his general experience, or rather on his general impression of his experience, for he has made little use of actual figures. One can only regret that figures drawn from this large experience were not available; but we quite agree with our author that unless these figures are accurately kept they are worse than useless. The various methods of treatment recently introduced are in many cases mentioned, and their value appraised with a fairness which one often misses in the writing of practitioners of Sir William Whitla's standing.

There is, however, besides, much that is of by no means equal value such, for example, as the description of duodenal ulcer and paratyphoid fever, and the account given of the vaccine treatment of acne. One may be permitted to doubt if any useful information can be gathered even by "the busy practitioner" from the following description of this method of treatment:—"A little pus is taken from an acne spot, and the staphylococcus submitted to an incubator with suitable culture-medium. After the sterilisation of the culture the standardised emulsion is hypodermically injected, and the treatment in a few weeks is usually followed by at least marked amelioration of the disease. French states that there is no necessity for determination of the opsonic index; this shows a constant negative phase, as after minute tuber-

culin injections: neither is there any necessity to trouble about the particular staphylococcus, since, by starting with the germ from the acne pustule, the specific organism, whether *S. aureus*, *albus* or *citreus*, supplies the vaccine suitable in each case. The injections, each of which represents the sterilised products of 250,000,000 of the cocci, should be given about every seventeen or twenty-one days." It is not, of course, to be expected that in a book of this kind, embracing the description of so many and so different diseases, all the descriptions should be of equal value, but there is no excuse for obscurity.

We have pointed out these defects not in any captious spirit, but rather because we believe that the merits of the book and the reputation of the author will gain for the work a wide circulation, and we trust that careful revision will eliminate these blemishes from future editions.

Diseases of the Nose and Throat. By D. BADEN KYLE, A.M., M.D. Philadelphia and London: W. B. Saunders & Co. 1907.

WITH considerable pleasure we took up the task of reviewing the fourth edition of Dr. Kyle's classical work. From the time when it was first published in 1889 the book has taken a foremost place amongst the text-books devoted to the subject of diseases of the nose and throat, more especially because those rarer conditions which are not often seen in practice are dealt with in proportion to their difficulty rather than in proportion to the frequency of their appearance in our clinics.

It is hardly possible to analyse the many new articles which have been added to this edition, but one may select a few headings in order to show the extensive range which is covered in its pages. For example—Taking cold, syphilis of the septum, congenital stridor, occupation rhinitis, nasal hydrops, nasal syphilis, and adhesions of the soft palate to the pharyngeal wall. Under the heading of "General Consideration of the Mucous

Membranes," the importance of the chemical examination of the saliva is emphasised, and a good deal of evidence is brought forward to show that the chemical changes of the saliva as regards its ammoniacal salts and the sulphocyanide which are always present to a more or less extent can be used as a means of diagnosis. The author himself says (page 56) "Unquestionably the chemical reaction of the secretions of the body is an important factor in the susceptibility of individuals to disease. I think there is no doubt that the fact that at one time an individual resists disease and at another time succumbs can be largely explained on this basis."

A comparison of this edition with the second shows that the author has not changed his views with regard to the subject of nasal polypus a condition which he still terms myxoma. We hardly like to criticise this, but research work in this country—especially that of Younge—goes to prove that the majority of polypi are oedematous hypertrophies, and not true new growths. He also uses the term mucocoele, and differentiates between it and the ordinary polypus. In this he is probably correct, though we do not quite understand his explanations.

A very complete account of the operations for the relief of nasal obstruction due to septal abnormalities, both old and new, has been included, and several modifications of Killian's procedure are described. Amongst these useful hints for the operator will be found, though naturally most operators of experience have their own methods for overcoming the various difficulties met with in doing a submucous resection operation. The account of the operation for suppuration of the antrum of Highmore is concise and easily followed. The author inclines to the large opening between the cavity of the antrum and the inferior meatus of the nose. A really splendid account of bronchoscopy, written for the author by Chevalier Jackson, is included, and as Mr. Jackson is second only to Professor Killian himself, who invented the procedure, his account will be read with profit, as every step in the operation is clearly laid down.

A whole chapter is devoted to voice and speech and

their defects, and much useful information is given about stammering, including directions for the treatment of this most troublesome affection.

In conclusion we can only say that it has been seldom our lot to read a more interesting manual.

S. H. L.

Precious Stones: for Curative Wear; and other Remedial Uses. Likewise the Nobler Metals. By W. T. FERNIE, M.D.; Author of "Herbal Simples," "Animal Simples," "Kitchen Physic," "Meals Medicinal," &c. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 1907. Pp. xx + 486.

ALTHOUGH the age of theological miracles is generally supposed to have long since terminated, the presence, and even continuous genesis and development, of the wonderful—and often inexplicable—in physical facts and phenomena, and in metaphysical belief and ratiocination, have by no means ceased to play their parts on the mental—if not highly intellectual—stage of human existence in these opening years of our enlightened Twentieth Century. Students of the current—or recent—faiths of Christian Science, of Dowieism, of Shrine-healing, of Hypnotism, and of the various "modern" forms of faith-healing should approach in a liberal spirit the questions of the efficacy of Electro-biology, of Animal Magnetism, of Mesmerism, of the Royal Touch for scrofula ("King's Evil"), of St. John Long's Liniment, of Greatrakes's stroking, of Witchcraft and Demoniactal Influences—with their associated mediæval "Exorcisms"; and their corresponding (classically) antique, and (savagely) contemporary, utilisation of the wearing of "Amulets," and the incantation of "Charms"; of the skilled reading of botanical (and even mineral) "Signatures"; of the adaptation of neutralising "Antipathies," and the evolutionary culture and grafting of appropriate "Sympathies." A large proportion of the cases of disease—even in our twentieth century, and in our largest and most enlightened metropolitan centres—would be found, on duly inquisitorial research, to be treated after methods which are anything rather than medically orthodox. And the older

(and oldest known of the) primitive items of therapeutic faith will be found to be represented by their direct linear descendants in every one of the communities of modern civilisation. Accordingly, the question was wisely asked, in the "leading Medical Journal" from which Dr. Fernie quotes at the opening of his Introduction: "Is it not of timely interest to enquire—having before our notice the results of modern investigations into radio-activity, and force-rays—whether, after all, Precious Stones may not be capable of exerting therapeutic influences? The astute physician should not altogether overlook the part taken by Gems in the kaleidoscopic variation of human sentiments, and the evolution of personal sympathies."

There is no possible doubt whatever, that the physical, chemical, and æsthetic qualities of gems and precious stones united in the production of their peculiar mesmeric effects on the minds of their primitive discoverers and early students. The doctrine of "signatures," which was so much "in the air" of mediæval Europe, affected the therapeutic, prophylactic, and alexipharmic history of such minerals to a very considerable degree. The brilliancy of the diamond, and the various shades of the fixed, or rainbow, tints of other stones contributed, and with the greatest liberality, to the establishment of their respective sympathetic, antipathetic, physiological and curative reputations. All these facts are most copiously illustrated in the text of the interesting volume which we have just perused—with a degree of exceptional pleasure and instruction, for which we most cordially thank Dr. Fernie.

Marriage and Disease. Being an abridged edition of "Health and Disease in Relation to Marriage and the Married State."

Edited by PROFESSOR H. SENATOR and DR. S. KAMINER.

Translated from the German by J. DULBERG, M.D. London: Rebman, Ltd. 1907. Svo. Pp. x + 452.

THE *raison d'être* of this volume is told in the translator's preface, and in a way which leaves the critic nothing to desire: "When the large manual of which this volume is a condensed edition was published some time ago, as a text-

book for the medical profession. several writers who reviewed the work suggested that, containing, as it does, a mine of information which is of the utmost interest to the general public, an abbreviated edition, intelligible to the ordinary reader, would be of the greatest benefit. Acting on this suggestion, the publishers have commissioned me to prepare such an edition, from which all purely technical and professional matter has been excluded, and I have with pleasure undertaken the task. At a time when such questions as the decline of the birth-rate, the sterilisation of the degenerated, the restriction of indiscriminate marriages, the voluntary limitation of families, and so forth, form subjects of daily debate and newspaper articles, it is of the greatest advantage that every man and woman who either contemplates or has embarked on matrimony should be as well acquainted as the limits of our conventionality permit with the medical or hygienic aspect of marriage." The vast importance of this correlated series of influences—collectively and individually—on every one of our so-called civilised communities can, of course, hardly be over-rated. They are all well and wisely discussed in the pages of the volume before us. Accordingly, we take the opportunity, while strongly recommending its perusal to every inquiring reader, of congratulating Dr. Dulberg on the tasteful skill and thoroughness of execution which he has throughout displayed in the fulfilment of his task, and of thanking him most cordially for the combined pleasure and instruction which we have received from the perusal of his pages.

The Essentials of Cytology. An Introduction to the Study of Living Matter. By CHARLES EDWARD WALKER. London: Archibald Constable & Co., Ltd. 1907. Pp. 139.

THIS is a useful book of moderate compass in which a clear account of the structure and reproduction of the cell is given. It contains in all a dozen chapters, the last being devoted to cytological methods.

Mr. Walker is Assistant Director of the Cancer

Research in Liverpool, and naturally deals fully with the bearings and significance of the peculiar form of mitosis seen in certain phases of cancerous growths.

At the outset of the book emphasis is laid on the fact that no mass of protoplasm other than the complete cell is really alive. Reference is also made to the reciprocal influence of growing cells upon each other, not merely in respect to configuration, but also in regard to the nature of the tissues produced. To this influence the term "somatic co-ordination" is given, and the effect is usefully illustrated by the differentiation and limitation of tissues arising from the daughter cells of the fertilised ovum, although each of these, in the quadruple stage, has been experimentally shown to be capable of evolving a complete embryo under suitable conditions. The account of the structure and division of the cell, clear in itself, is made more so by well-reproduced diagrams, and, in particular, by a series of stereoscopic photographs supplied with the book.

A considerable part of the work is devoted to the description of "reduction division" as it occurs in the male sexual elements, in cancerous growths, and in the maturation of the ovum. With regard to the last-named, it might be asked—Do the polar bodies represent nuclei only as the author implies?

A slight departure from the nomenclature usually applied to meiotic division is acknowledged. The term "meiotic phase" is given to the whole period during which reduction of the chromosomes is taking place. Again, "post-meiotic" is made to include the first division, immediately following the reduction—a phase regarded by many as properly belonging to the process of meiosis. The only exception which can be taken to this terminology is that the dissociation tends to obscure the true relationship of the stage, it being the second act or completion of the process.

Fertilisation in multicellular and unicellular forms is described in Chapters VIII. and IX., while in the remaining two chapters are discussed the interesting questions of—*(a)* individuality of the chromosomes, *(b)* transmission of

hereditary characters. The account of fertilisation in unicellular forms presupposes a knowledge, on the part of the reader, of the structure of the nucleus or rather nuclei. It would tend to increase the interest and value of the description for perhaps most readers, if this had not been taken for granted.

The book, as a whole, is highly commendable and well got up. The type and illustrations are good, and the descriptions clear. It undoubtedly meets a want felt by many who are engaged in work similar to that of the author.

A slight oversight in the use of the singular instead of the plural form of verb occurs in the third sentence on page 61.

RECENT PUBLICATIONS ON MIDWIFERY AND GYNÆCOLOGY.

WE have received from different publishers four small volumes dealing with obstetrics and cognate subjects. The first is entitled "The Office of Midwife under the Midwives Act." It is written by Mr. Stanley Atkinson, who is at once a barrister-at-law and a medical man, and is published by Messrs. Baillière, Tindall & Cox. It deals with the relation of the registered midwife to the ('entral Midwives' Board, to the local supervising authority and its inspectors, to the medical practitioner, to the coroner, and to the midwife's patients, and should prove of considerable value. It also contains an interesting literary appendix, consisting of extracts from various old documents and books showing the position held by midwives in the past.

The second volume is the sixth edition of Dr. Cullingworth's "Short Manual for Monthly Nurses," published by Messrs. J. & A. Churchill. Written originally to supplement a book on general nursing, it was then published separately, and now it again contains extracts from the earlier work. Like everything written by Dr. Cullingworth, it is clear, concise, and full of valuable information.

The third volume is also on obstetric nursing, and hails from America. It is written by Dr. W. R. Wilson, Visiting Physician to the Philadelphia Lying-In Charity, and is published by Messrs. Saunders. It is a handy little volume which does not possess any very startling features, in either a good or a bad direction. Its illustrations are poor.

The fourth volume is the most important, and consists of a reprint of the Ingleby Lectures delivered by Dr. Thomas Wilson at the University of Birmingham in May last. The subject is "Pelvic Inflammation in the Female." In these lectures the author has endeavoured to present, in the light of present knowledge, a succinct and coherent account of pelvic inflammations as they are met with in practice. The lectures are founded on Dr. Wilson's large experience and on the *post-mortem* records of the Birmingham General Hospital for the past fifteen years. The subject is a most important one, and Dr. Wilson's contribution to it is well worthy of the attention of gynaecological specialists. The publishers are Messrs. John Wright, of Bristol.

Fever in the Tropics: their Clinical and Microscopical Differentiation. Including the Milroy Lectures on Kala-Azar. By LEONARD ROGERS, M.D., F.R.C.P., F.R.C.S., B.S., I.M.S.; Professor of Pathology, Medical College, Calcutta; Fellow of the Calcutta University, &c. Oxford Medical Publications. London: Henry Frowde; Hodder & Stoughton. 1908. Royal Quarto. Pp. 343.

PROFESSOR ROGERS, of the Calcutta University, brings to the accomplishment of the task which he set before himself a ripe and far-reaching experience of tropical fevers. He writes from original research and personal observation, and bases his account of this important group of diseases mainly on the notes and charts of some two thousand cases in which he had personally examined the blood by modern diagnostic methods. All the illustrations in the work are original. They include no fewer than

eighty-two temperature charts, in which are included observations made every fourth hour. At the edges of each chart both Fahrenheit's and the Centigrade scales are given. The curves are unduly heavy, and appear to have been drawn by hand and not ruled. Nevertheless, they serve well the purpose for which they are intended.

The work opens with a very interesting historical review of the evolution of our knowledge of Indian fevers. First came the period from the year 1757 to 1804, during which bark was used by ships' surgeons in the treatment of the severe malarial fevers of India. Next followed the disastrous displacement of bark by violent purging, salivation with mercury, and copious venesection (1804 to 1847). The third period—from 1847 to 1854—witnessed in turn the displacement of bleeding and mercury by quinine given during fever. The credit of this change “undoubtedly belongs solely to Edward Hare, whose re-discovery of the safety and efficiency of the use of the cinchona alkaloids during the progress of malarial fevers in India is a fascinating page of medical history.” Hare came to India in 1839, and in 1842 found himself face to face with the deadly terai fever at the foot of the Nepaul Himalayas. Appalled by the terrible death-rate from the disease when treated by mercury, and having had his attention drawn to the works of James Lind and William Hunter on the use of cinchona bark in the treatment of the Indian fevers, Hare tried twenty-grain doses of the then recently-discovered quinine every four hours in the case of a European deserter, aged twenty, who had become insensible in terai fever. In forty-eight hours the patient took two and a-half drachms of quinine, and recovered. Subsequently, during nine years in charge of European regiments which served both in the first Burmese war and throughout the siege of Delhi during the Mutiny, Hare treated 6,982 fever cases, with an average of only one death in 211 cases.

Mention of the Mutiny reminds us that enteric fever, although previously known in India, owed its more extended prevalence to the arrival of large numbers of British troops towards the close of the year 1857 for the

purpose of quelling the Mutiny. Enteric fever was first clearly recognised in India by Scriven in 1854. In 1893, A. C. Crombie, I.M.S., maintained that natives were largely immune to this fever, but his views were opposed by H. W. Pilgrim, our fellow-countryman—W. J. Buchanan, and others. Since the introduction of the Widal test, the occurrence of enteric fever among natives of India has been repeatedly verified by Dr. Rogers, R. H. Elliott, G. Lamb, and other observers. Following on the "Introduction" comes a chapter on the technique of the examination of the blood in fevers. The author's remarks are all based on an extensive personal experience of nearly all the methods described.

The subject-matter proper of the book is considered under the headings—(A) Fevers of long duration; (B) Fevers of short duration. In the first group are included kala-azar, trypanosomiasis and sleeping-sickness, typhoid fever (including para-typhoid), Indian relapsing fever and African tick fever, Malta or "undulant" fever, the pre-suppurative stage of amœbic hepatitis, and epidemic dropsy. The last-named disease is to be distinguished from beri-beri by the constant presence of the knee-jerks and the absence of anæsthesia in any stage of the affection. This part of the work closes with a brief account of certain unclassified long fevers. In writing of typhoid fever, Dr. Rogers takes Curschmann as the great authority upon this disease.

The fevers of short duration are the malarial fevers, dengue, plague, yellow fever, heatstroke, sunstroke and the effects of heat. These are followed by unclassified short fevers—"seven-day fever," "three-day fever."

The work closes with a chapter on the incidence of various specific fevers in the Tropical East—namely, typhus, cerebro-spinal fever, influenza, and the exanthemata.

As to the existence of genuine typhus fever in India, medical opinion has been divided. But in the years 1891 to 1893 there can be little doubt that outbreaks of this fever occurred in Baloochistan, the Peshawar Valley in the Punjab, and not far from the hill station of Simla.

In the early months of 1892, influenza showed an epidemic prevalence in Assam; and of eighty-four cases of the disease admitted to the European General Hospital, Calcutta, during that year, fifty-four were admitted in February and thirty-three in March. The type of the disease was very much the same as that which it presented in Europe at the same period.

Scarlet fever is very rarely met with in India, but in marked contrast to this disease measles is common all over the Tropical East, and especially in India. In Calcutta it is the eruptive fever which is most frequently encountered. In the three years, 1904-1906, five-sixths of the cases occurred in the six cooler months from November to April.

Another common disease in India is mumps, which attacks natives as well as Europeans. Chicken-pox also prevails throughout the Tropical East, and Dr. Rogers tells us that "there is often great difficulty in distinguishing its severer forms from mild and modified small-pox." In India the majority of elderly natives show pitting of the face by small-pox. Thanks to vaccination, this is much less common among the young adults and children. From Calcutta small-pox is never absent for more than a few months at a time. Its greatest incidence is during the dry season, from October to May, whether the weather is cold or hot; its least incidence is during the S.W. monsoon, although a marked decline takes place before the rains actually set in.

We are glad to find the phrase "simple continued fever" condemned at page 125. The author says that "mild remittent and abortive cases" of typhoid fever "have doubtless very often been returned as 'remittent fever,' which has long been one of the official synonyms for malaria, and as 'simple continued fever,' under which doubtful fevers of all kinds are too often entered, whatever the type of temperature may be, although I know of no definite fever to which this term might be suitably applied unless it be the more continued types of the seven-day fever described on page 306."

In a work so essentially modern the reader would

expect to find the protozoan nature of the *Spirillum Obermeieri* alluded to in the author's account of Indian relapsing fever. But this is not so, although the bibliography at the end of the description of this disease and of African tick-fever contains a reference to A. Breinl's and A. Kinghorn's memoir, dated 1906, on the "Animal Reactions of the Spirochete of African tick-fever" (Liverpool School of Tropical Medicine, Memoir XXI.).

The work is one of the Oxford Medical Publications, and is handsomely brought out by the combined publishing firms of Henry Frowde (Oxford University Press) and Hodder & Stoughton, Warwick Square, London, E.C.

There are a few misspellings and printers' errors—such as "*Anchylostomum*" for "*Ankylostomum*" (page 35), "preventative" for "preventive" (page 91), "Leipsic" for "Leipzig" (page 134), and "Committee's" for "Committees" (page 145). "OEdema" (page 189) is carrying the Oxford dissolution of diphthongs a step too far.

Besides the temperature charts, to which reference has already been made, there are eleven finely-executed full-page plates and a number of illustrations and diagrams in the text. The frontispiece is a beautiful coloured plate, showing the parasites of malarial fevers and of kala-azar.

The work is a worthy contribution to the literature of Tropical Diseases, and reflects credit both on the author and on the Indian Medical Service, of which Dr. Rogers is so distinguished a member.

Treatise on Diseases of the Skin. By HENRY W. STELWAGON, M.D., Ph.D.; Professor of Dermatology in the Jefferson Medical College, Philadelphia. Fifth Edition, revised. Philadelphia and London: W. B. Saunders Co. 1907.

STELWAGON'S "*Treatise on Diseases of the Skin*" has become too well known to need more than the briefest notice in our columns. This, the fifth edition, has made its appearance in almost exactly five years since the publication of the book for the first time. This, surely, is no

mean performance for any book, and when it is borne in mind that the volume at present under review, as well as the earlier numbers, contains over a thousand pages, and is, therefore, to be classified amongst the most elaborate works on dermatology, it can be understood what evidence regarding its worth is borne by the rapid demand for reprints and revised editions. Practically no change in the size of the volume has now been made, as only fifteen pages in all have been added to it. Still we might suggest that in future its appearance in two volumes would conduce to the comfort of the reader. The illustrations have now been increased to over three hundred, and are for the most part well executed. Thirty-four of them are full-page plates, a few of which are in colour, while the remaining are text illustrations. The material dealt with is divided into eleven sections—the first of which is concerned with the anatomy, physiology, and pathology of the skin, and also with certain general points regarding treatment and diagnosis—in all a most useful chapter. The other sections are arranged according to the commonly-accepted methods of classification of skin diseases, the last section of all being a supplementary one on certain diseases of the lips and tongue. The paper, printing, and binding are good, and the general arrangement, with the addition of a good index, makes reference easy. To those who desire to provide themselves with a good standard work on dermatology we can cordially recommend the present volume.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. VII.—Neriin-Physiology (Tissues).
Edinburgh and London: William Green & Sons. 1908.
8vo. Pp. xii + 579.

THE seventh volume of this work contains 1,322 subject-headings from "Neriin" to "Physiology," including fifty-seven articles of more than 1,000 words in length, seventy-five articles of less than 1,000 words, but of at least ten lines in length, and short articles (of less than ten lines in length) to the number of 1,190.

The contribution on "Paralysis" covers sixty-six pages. It is the joint work of Dr. Risien Russell, Dr. Frederick Batten, and Dr. James S. Collier.

Dr. J. Stewart Fowler contributes a new article on "Pharmacology."

In consequence of recent advance in our knowledge several articles have been carefully revised—notably, the monograph on "Diseases of the Pancreas" by Mr. Mayo Robson. And again, in his account of "Parasites," Dr. W. T. Ritchie has added paragraphs on trypanosomes, the *Spirochæte pallida*, *Piroplasma*, and *Cytoryctes*.

There is little to criticise in regard to printing, spelling, and so on. We must, however, protest against the preference shown for the spelling "Phymosis" instead of "Phimosis." The latter word is given in alphabetical order, but the reader is told to "see Phymosis." Under the latter word the derivation of the term is correctly given from *φίμος*, "a muzzle." How can the Greek iota become "y"?

Treatment by Hypnotism and Suggestion. By C. LLOYD TUCKEY, M.D. Fifth Edition. London: Baillière, Tindall & Cox.

THIS volume of some four hundred pages contains a discursive account of the subject wherewith it deals. The author—one of the foremost opinions on the subject of hypnotism in these countries—has set down with much frankness his own experience. The splendid successes of hypnotism and suggestion, as practised by the author, are recorded, often with parallels from the experiences of well-known pioneers in psycho-therapy, and they must compel the attention of even the most sceptical as to its claims as a remedial agent. No claim is made for the infallibility of the treatment, and failures are recorded without any effort being made to evade the fact that they are failures. The book is not the panegyric of an enthusiast, but an honest effort to put within the reach of every practitioner (and on scientific grounds) a weapon, in the efficacy of which the author himself has no doubt at

all. This is what one expects from a disciple of the late Dr. Liébault, the founder of the Raney School.

To those especially who have had practical experience of the value of hypnotism the book is of great interest. In it will be found many remarkable cases reported in an easy conversational style of writing. But that the book will be of value to those who have little or no experience of psycho-therapy—those for whose edification one gathers the book was principally written—we are not so sure. One closes the book with an unsatisfied impression that something is wanting—that its testimony is not always conclusive. Probably this is largely due to the vague insecurity of the physiological basis on which the whole subject rests—a vagueness for which the author cannot justly be held responsible. Perhaps it is that the treatment of the subject is a little too discursive and too little systematised—too much result of treatment with too little detail of *rationale* of treatment. For instance, it is not made clear on what physiological grounds hypnotism was adopted in post-apoplectic and infantile paralysis, or in cerebral tumour or disseminated sclerosis—cases which would seem to the uninitiated quite inopportune for psycho-therapy. Whether it be due to all these causes or to any of them is hard to say, but the impression remains that as an incentive to the more general practice of psycho-therapy the book (despite many excellencies) is a little unconvincing.

Should the Size or Growth of a Medical Library be Restricted?

By CHARLES PERRY FISHER, Librarian, College of Physicians of Philadelphia. Reprinted from "Medical Library and Historical Journal," March, 1907.

As every medical man worthy of a place within the ranks of our profession, and worthy to be trusted with the care of the health and life of his fellows, continues to be a student down to the close of his career, it need hardly be stated with any special emphasis that the query which constitutes the title of the four-page reprint before us is one which appeals to the innermost professional and moral—as well as scientific and

social—feelings of every true physician. The record of the discoveries and opinions of the pioneer scientists, thinkers, and teachers of former ages and generations—so far as now attainable—is preserved for us on the printed page, the testimony of which constitutes the only approximately reliable one which we possess. The atmospheric currents of contemporary thought, and the luminaries which enlighten the firmament thereof, are there to be found reflected and stamped with the methods of reliable fixation. It is there that the accumulated (“capitalised”) results of the intellectual conquests of times past and present, near and remote, have been granaried for the relief of the intellectual hungerings of others.

The illiterate and the unscientific passer-by, and the unprofitably educated boor who visits and criticises cannot be made to feel the genuine value of the duly selected library. His own mental digestion has never attained to the complete absorption, still less assimilation, of the more complex products of the master mind, either of his own or of any other generation. But he is a thorough-going believer in the results of his own observation and experience. The value of his inferences therefrom he considers unquestionable, so that a discussion on this head would be pure waste of time. The Irish peasant’s clinching argument against the rotation of the earth on its axis was that Mickey ——’s house was always opposite his front door as he closed the latter when retiring for the night, and Paddy ——’s was opposite his back door: and there he found them in the morning, occupying the same relative positions. “That has been me expayrience night and mornin’ for the past sixty years: now if all this about the world goin’ round was thrue, wouldn’t Paddy ——’s house be in the mornin’ where Mickey ——’s was at night?” He did not, of course, grasp the fact that the suppressed premiss of his enthymeme was: the axis of the earth passes through my house. And who dare dispute such fact if once stated? There would be some danger of the application of old Teague’s shillelagh! And we will just mention, in passing, that a considerable proportion of the educated ratiocination of the opening years of our twentieth century will be found, on close scrutiny, to have assumed, without enunciation, the use of a similar or closely corresponding premiss. It is the prestige of

the advocate that carries the opinion of the average audience. It is one of the distinctive features of humanity. And this fact accounts for the opposition with which the important revelations of the struggling seeker after light are invariably received on their first announcement. The discoverer is treated to a crownless martyrdom ; and when a safe interval has elapsed after his extinction, his discoveries are successfully boomed as original matter by some well-placed favourite of fortune who has been a nominal worker in the same field. Could the grave yield up its secrets how many wicked or wasted lives, and how many broken hearts, could furnish corroborative testimony to this statement of discouraging fact ?

In this age of universal diffusion of education, and so-called knowledge and science, with free libraries, cheap classics, and cheapest up-to-date journals, yellow and white, the man in the street not only teaches and governs the community in matters political, but has and holds opinions of absolute—unshakeable—confidence in matters of science, of philosophy, and of literature, to say nothing of religion. And in accordance with the dictates of his self-appreciation he selects from his readings the items which suit his personal tastes and inclinations, which run in grooves parallel to those that conduct his own thinkings, and are of the proper size and shape to fit into the sundry pigeon-hole compartments of his own intracranial organs. He disowns the influence of infallibility (except, of course, when he can himself utilise this quality), and he detests the interference of the censor (with the corresponding limitation).

Under such conditions, now so widely distributed in civilised communities, and promising or threatening to prevail all over the world at an early epoch of future chronology, the influence of the library and its apostolic framers and guides can hardly be over-estimated. From the inspiring sources of its shelves must flow the currents of opinion which chiefly influence things temporal, while the “modernist” thinker will be guided thereby in his views of most matters relating to the doctrines of the eternal and the divine.

Mr. Fisher brings to bear on a subject of unsurpassable importance, which he treats wisely and well, the compre-

hensive and unprejudiced views of a true philosopher; furnished and fortified by the unlimited fund of information, both general and specialised, which is so fortunately afforded by the conditions of the position in life to which it has pleased a beneficent Providence to call him. All our readers should surely feel interested in the subject which he has chosen for discussion. He presents for consideration the question viewed from three several standpoints. Of these, the first defends the position that every medical library should contain "everything pertaining to medicine and the closely allied sciences"—from the *incunabula* down to the newest and smallest of our contemporary periodicals. Individual editions should all be secured, as some of these contain items which are omitted or modified in subsequent issues. All smaller items—pamphlets, reprints, &c.—should be carefully classified by subjects and bound in volumes; and all periodicals should be duly filed. The question of the desirability of establishing libraries of this ideal type in the various large centres—so as to "make the books available to the greatest number of physicians"—is the second for discussion. The third of Mr. Fisher's series is: "Is it sufficient for this country that we have in the Library of the Surgeon-General's Office at Washington the largest and most complete collection of medical literature in the world? Should other libraries devote their energies and the funds at their disposal with the object of making as complete as possible what some call a 'reference' and others a 'working' library? Old editions of books to be discarded when later ones are obtained, or when the space is needed for other books—the editions thus discarded to be sent to the Library of the Surgeon-General's Office if wanted?"

We are very much pleased to see that Mr. Fisher's own sympathies are with the establishment of the first of these positions. And we cordially offer our own feeble judgment in support of his point of view. We find it to be decidedly beyond the range of our powers to conceive—even in the present conditions of real and substantial wireless telegraphy, and spiritual and imaginary telepathy—how the consciousness of the existence of a certain item of printed knowledge in the Washington Library, which is urgently required for immediate utilisation by a physician in New Orleans or San Francisco,

can be held to represent the fulfilment of the function for which it was originally published by the author or shelved by the librarian! We have too great confidence in the practical efficiency of the American intellect not to believe that the opinion will rapidly prevail with our brethren of the West when it has even once been subjected to the criterion of universal suffrage. And we take the opportunity of cordially thanking Mr. Fisher for the opportunity which we have just enjoyed of the perusal of a truly philosophic paper, which has made us think a great deal more than we have space for writing down.

Manual of Diseases of the Ear, Nose and Throat. By JOHN JOHNSON KYLE, B.S., M.D. Second Edition. London: Sidney Appleton. 1908. Cr. 8vo. Pp. xxxi + 627.

It is somewhat difficult to do adequate justice to a book such as the one we are now considering, as it is difficult to place ourselves so that we can look at it from the point of view of either the reader or the author of such a work. That it has met with appreciation is obvious from the fact that a new edition has been called for within eighteen months, and it must be admitted that there are many unusual and interesting features in its pages. We, however, consider that the subject of diseases of the nose, throat and ear demands separate works, for it suffers from undue curtailing if put into the compass of one book. To our mind the most undesirable feature in Mr. Kyle's work is that an attempt has been made to mention everything, and the rarer conditions have, of necessity, to be slurred over in order to keep the size of the book within bounds.

Undoubtedly the chapter on embryology will be useful to the general practitioner, and saves reference to many larger works possibly not available to the reader. The anatomical descriptions are correct, but, naturally, they are hardly full enough to enable operative work to be based on them. A good deal of useful information under the heading of "Treatment and General Therapeutics" will be found. Diseases of the larynx, trachea, and bronchi are allotted only sixty pages, out of a total of six hundred, which can hardly be considered

enough, and bears out the criticism we have made above. There are, no doubt, good chapters and various descriptions which repay the reader for the trouble of reading the book, but it must be confessed that the manual does not appeal to us as one which can be highly recommended.

SOME RECENT STUDENTS' BOOKS.

1. *Elements of Physics for Medical Students.* By FREDERIC JAMES M. PAGE, B.Sc. (Lond.), F.I.C.; Associate of the Royal School of Mines. London: Cassell & Co. MCMVII. Pp. xvi + 288.
2. *Medical Laboratory Methods and Tests.* By HERBERT FRENCH, M.A., M.D. (Oxon.); F.R.C.P. (Lond.); Assistant Physician, Guy's Hospital, &c. Second Edition. London: Baillière, Tindall & Cox. 1908. Cr. 8vo. Pp. viii + 175.
3. *Aids to Pathology.* By HARRY CAMPBELL, M.D. Lond., B.S., F.R.C.P. London: Baillière, Tindall & Cox. 1908. Fscp. 8vo. Pp. viii. + 176.
4. *First Lines in Midwifery.* B. G. ERNEST HERMAN. M.B. (Lond.), F.R.C.P. New Edition. London: Cassell & Co. MCMVII. Pp. xii + 222.

THESE four neat and handy books may well be grouped together as a type of what a medical student wants when he is passing through his five years' curriculum.

1. MR. PAGE's work ("Elements of Physics") is intended to be a companion volume to a "Manual of Chemistry" by Dr. Arthur Luff and himself, and covers the ground, both theoretical and practical, required by the Conjoint Board of the English Royal Colleges and of the London Society of Apothecaries. There are six "Parts"—the first deals with general physics, the second with heat, the third with electricity, the fourth with sound, the fifth with light, while the sixth is devoted to practical exercises. The last-named must prove extremely useful to students.

The author shows a decided preference for the metric system of weights and measures, including the centigrade thermometer scale. In Chapter V. (Hygrometry), however, and in the tables in the Appendix, he uses Fahrenheit's thermometer scale and inches. The book is profusely illustrated, the drawings being—to quote the author's own words—"as simple and diagrammatic as possible, so as to encourage the student to reproduce them when describing the various instruments and methods."

2. DR. FRENCH has done a great service to medical practitioners as well as to medical students in bringing out a second edition of "*Medical Laboratory Methods and Tests.*" The book was first published in 1904 as a small handbook for the medical laboratory. In the present edition many new methods and tests have been included.

There are ten chapters, in the first six of which in sequence is described the examination of the urine, blood, sputum, pus, gastric contents, and fæces. Chapter VII. sketches the microscopical examination which should be made in affections of the skin. The examination of serous exudations, cerebro-spinal and cystic fluids is described in Chapter VIII.; the preservation and staining of morbid specimens are the subjects dealt with in Chapter IX.; and the tests for the commoner poisons are briefly described in the tenth and last chapter.

We cannot say that all the illustrations in Dr. French's book are worthy of it. Some of them are crude and roughly drawn; others are very good indeed. There are two coloured plates—one showing blood-cells, the other micro-organisms.

The author is rather extravagant in the quantities of the reagents which he uses in urine-testing, and this is a pity, seeing that medical students are naturally prone to waste those reagents when testing in hospital practice. For example, in applying Heller's nitric acid test for albumin in urine, it is quite unnecessary to "pour 1 inch of non-fuming nitric acid into a test-tube." Much less than "1 inch of liquor potassæ," or than "1 inch of ozonic ether," will suffice in testing for pus. So also, in Moore's

test for sugar, 2 ccs. of liquor potassæ mixed with 2 ccs. of urine would be quite enough to give the reaction. Thrift in things medical should be inculcated in a text-book for students.

3. "AIDS TO PATHOLOGY," by Dr. Harry Campbell, opens with a very clear account of the blood and its diseases. We have seldom met with so much information in such a short space. The author is not always so happy, witness his scrappy definition of "caseation" as "degeneration and necrosis" (of cells) at page 12. There is, it is true, a fuller definition of the process at page 35, but to it there is no reference in the index.

To show that the book has been brought up to date we may mention that the conclusions arrived at in the Second Interim Report of the Royal Commission on Human and Animal Tuberculosis, issued February, 1907, are given at page 14. Opsonins are fully described at pages 163 to 169—the term being explained as "feast-preparers!" The references are brought down to August 24, 1907. The suggestion thrown out by Sir Patrick Manson at the last annual meeting of the British Medical Association—that diabetes mellitus may be a germ disease—is mentioned at page 94.

Anent the printing of the book, we cannot help thinking that the type (long primer) is small even for young eyes; and frequent passages are met with printed in brevier, which is very trying to most eyes.

A sign of the times is that Greek derivations are printed in English type—*ὄψωνέω*, at page 165, being an exception.

4. THE new edition of Dr. Herman's "First Lines in Midwifery" has been carefully revised throughout. It contains a new chapter (XVIII.), in which the requirements of the Central Midwives' Board for those who practice as midwives are set forth in detail, together with a running commentary by the author. This admirable little book was first published in November, 1891, that edition being reprinted in 1892, and again in 1895. A second and re-

vised edition came out in 1897, and was reprinted in 1898. Revised editions subsequently appeared in 1900 and in 1902. The book was reprinted in 1903, 1904, and 1906, and the present edition was published in 1907. Such a record must be gratifying to author and publisher alike.

Hygiene and Public Health. By LOUIS H. PARKES, M.D., D.P.H. Univ. of Lond., Consulting Sanitary Adviser to H. M. Office of Works, Civilian Sanitary Member of the Advisory Board for Army Medical Services, Medical Officer of Health of the Metropolitan Borough of Chelsea, Examiner in Hygiene and Public Health to the University of London, Fellow of the Royal Sanitary Institute; and HENRY R. KENWOOD, M.B. Edin., D.P.H. Lond., Professor of Hygiene and Public Health at University College, London, Medical Officer of Health and Public Analyst of the Metropolitan Borough of Stoke Newington, Fellow of the Royal Sanitary Institute. Third Edition, with Illustrations. London: H. K. Lewis. 1907. Pp. 609.

THE appearance of the third edition, under the conjoint authorship of Drs. Parkes and Kenwood, of this well-known text-book will be welcomed by all students of public health. While we recognise many of the old features, the volume before us shows signs of careful revision. It is one of the most readable of the works on hygiene, and though, with the ever-increasing scope of the subject, there is need for condensation, the work has not been materially altered in this respect, and it still retains its leading characteristics.

We would especially commend to the reader the pages devoted to the biological treatment of sewage, wherein the principles which underlie the method are discussed, and its development is traced from the first practical attempt to utilise these principles by intermittent downward filtration by the Massachusetts Board of Health in 1888, down to the present day, when "systems" are legion. These systems are severally described, and the authors wisely state that, "with the evidence at present available, it is extremely difficult to decide as to the respective merits of all the installations which have been

advocated. Sewage varies so much in its characters and in the relative proportions of its different constituents that experiments performed on different sewages afford no precise information on which can be based a safe and scientific comparison." While this is so as regards the relative merits of the various systems in use, the biological method undoubtedly gives a "greater efficiency of treatment and results in a purer and sweeter effluent—one more readily susceptible to the agencies of ultimate purification and more valuable to vegetable life."

Of vast importance is the whole chapter dealing with school hygiene, school premises—their construction, arrangement and cleansing; the scholar, the symptoms and prevention of brain fatigue and over-pressure, vision and defects of vision, hearing, the bones and muscles, posture and physical exercises, school baths, the hair and the nails, the feeding of school children, the spread of infection in schools, and the symptoms of communicable diseases. This chapter might be printed separately, as a Compendium on Public Health for school teachers, with advantage, for it treats of matters which are engaging popular attention more and more as their national importance is becoming realised.

Scattered through the work we find different aspects of the tuberculosis problem dealt with, and the divergent views entertained by authorities, notably these regarding the question of bovine tubercle and its relation to the human subject, are treated in a judicial spirit.

The work is equally suited to the student and the practitioner; to the former it is a readable text-book from which he can glean knowledge on public health matters with pleasure and facility, and to the latter it is a handy work of reference wherein matters of hygiene are dealt with comprehensively and with accuracy.

PART III.

SPECIAL REPORTS.

REPORT ON SURGERY.

By R. ATKINSON STONEY, B.A., M.B., B.Ch., B.A.O. Univ.
Dubl., F.R.C.S.I.; Surgeon to the Royal City of Dublin
Hospital.

A PLEA FOR EARLY EXPLORATORY LAPAROTOMY IN GASTRIC DISEASES OF DOUBTFUL NATURE.

IN the *Journal of the American Medical Association* for January 18, 1908, is a paper by Rodman, of Philadelphia, entitled—A Plea for Early Exploratory Laparotomy in Gastric Diseases of Doubtful Nature. He says that anatomically the stomach would seem to be an organ where good results ought to be expected from early operations for cancer, yet the results of operations at present are very bad. This is entirely due to the fact that, according to various statistics, from 60 to 90 per cent. of the cases of cancer of the stomach submitted to the surgeon for operation are hopelessly inoperable. This, he remarks, is a severe reflection on twentieth century Medicine, and demonstrates beyond all possible doubt the futility of everything short of exploration to make even an approximately accurate diagnosis. The late symptoms of cancer are positive and unmistakable, as a rule, and it is on such cases that the text-books base their classic descriptions. Rapid emaciation with gastric symptoms in a person over forty years of age almost invariably calls for an exploratory laparotomy. The author strongly urges pylorotomy combined with gastro-enterostomy for chronic ulcers situated close to the pylorus, owing to the great danger of malignant change occurring later if only a gastro-enterostomy is done. The mortality in 130 cases of pylorotomy for ulcer by surgeons of various countries is only 6.9. The mortality of these cases if not operated on is much greater. From perforation alone,

13 per cent.; from hæmorrhage, 8 per cent.; while the mortality from malignant transformation is an indefinite, intangible, but an ever-increasing one, for it cannot be denied that cancer, in all situations of the body, is startlingly on the increase.

THE ÆTIOLOGY OF EPITHELIOMA.

In the *Journal of the American Medical Association* for February 8, 1908, Hertzler, of Kansas, suggests a theory as to the Ætiology of Epithelioma. It is that the connective tissue cells, which by their staining reactions have apparently acid affinities, antagonise the growth of epithelial cells, which have alkaline affinities. In cancer, which he refers to under the name of epithelioma, this resistance of the connective tissue is lowered by trauma and access of an alkaline fluid, and this allows an overgrowth of the epithelial cells. He gives his conclusions as follows:—

1. Cancer occurs at that point where irritation and exposure to an alkaline secretion co-exist.

2. When a chemical which has the power of combining with the acidophilic elements is injected into a tissue made up of epithelium and connective tissue the epithelium proliferates and invades the connective tissue, simulating the process in beginning epithelioma.

3. The same chemical process which prevents blood from coagulating limits the invasion of one tissue by another. Epithelium everywhere rests on a tissue similar to the membrana elastica of the blood-vessel. It is this layer that confines epithelium within the normal limit.

4. The aberrant growth of cells is but the expression of some disturbance in the chemical relationship of the different kinds of cells. The results of experiments, based on the knowledge of tinction chemistry, permits us to state in general terms the nature of such disturbance of chemical balance.

PERINEAL PROSTATECTOMY.

In the *Journal of the American Medical Association* for February 15, 1908, is a paper by Young, of Baltimore, in which he reports 103 cases of removal of the prostate through

the perineum without a death—this in spite of the fact that many of the patients were over seventy, and in several cases there were calculi, pyonephrosis, over 1,000 cc. of residual urine, and marked impairment of renal function. The results in these cases were much better than in those previously reported, and the author puts this down to a simplification of the technique of the operation and also to a great simplification of the post-operative treatment. The gauze packs filling the cavities from which the prostate has been enucleated are removed the morning after the operation, and the tubes on the same afternoon, and on the following day the patient is got up and out of doors in a wheel-chair. The perineal fistula usually heals within two weeks; in only three cases has it persisted, and in these it is only a minute opening. Incontinence of urine is present in only two patients, and both of these are subjects of locomotor ataxia. A slight weakness of the sphincter has persisted for a time in several cases, but has usually completely cleared up within two or three months. There were seven cases of epididymitis, all of which resolved without operative treatment. The author recommends this route for attacking the prostate in severe chronic prostatitis and also in malignant disease.

INCONTINENCE OF URINE AFTER PROSTATECTOMY.

In the same number is a paper by MacGowan, of Los Angeles, in which he gives an account of eleven cases in which incontinence, or—as he calls it—enuresis, followed prostatectomy. He says when such incontinence occurs the cause may be sought for and found in one of the following conditions:—

1. The removal of unusually large prostates, which have stretched and destroyed the muscular tissue around the urethral orifice.

2. The attempted removal of very large, markedly fibroid prostates, which cannot be removed, and prove inoperable.

3. The removal of small hard prostates with connective tissue elements predominating over the glandular, and accompanied by a high grade of contracture of the bladder-neck and diminished bladder capacity.

4. Failure on the part of the operator to perceive and remove small nodules situated on the vault or the side of the vesical

opening of the urethra, which interfere with the proper closure of the bladder.

It is a significant fact that ten of these eleven cases followed a perineal operation.

MAGNESITE SPLINT.

In the *Journal of the American Medical Association* for February 22, 1908, is a paper by Dr. Raymond Russ, of San Francisco, in which he describes a fixed dressing which may be used instead of plaster-of-Paris. He calls it the Magnesite Splint, and it consists of bandages impregnated with calcined native magnesium carbonate (so-called magnesite); these are immersed in a solution of magnesium chloride, and applied in the same way as roller plaster bandages. The author claims the following advantages:—

1. *Penetrability*.—The X-rays can penetrate this compound twice as readily as plaster-of-Paris, and, as it need be only one-half or one-third as thick, the penetrability of a magnesite splint is four or six times that of a plaster one.

2. *Hardness*.—The magnesite splint is much harder and firmer. In fact magnesite is used in the arts to form floors.

4. *Tenacity*.—It is extremely tenacious, and is elastic.

5. *Weight*.—It is about one-third as heavy again as plaster, but, owing to its greater hardness, it can be used in a smaller quantity, and therefore a splint made of it is lighter than one of plaster.

6. *Moisture*.—It is apparently unaffected by moisture. Its only objection appears to be that it takes a longer time to set than plaster-of-Paris.

PERINEAL AND PERIRECTAL ABSCESS.

In the *Medical Record* for November 23, C. B. Kelsey has a paper on Perineal and Perirectal Abscess. He divides such abscesses into (1) those above the levator ani or superior pelvi-rectal space; (2) those below the levator ani or ischio-rectal space; (3) submucocutaneous abscesses, those superficial to the sphincter.

The first may be seen as a diffuse pelvic cellulitis resulting from extensive operations on the rectum in urinary infiltration;

in diseases of female pelvic organs ; or as a gangrenous proctitis, fortunately very rare ; or as a localised abscess.

The abscesses of the second form show a great tendency to burrow in all directions unless freely opened and drained.

Those of the third form are the commonest, and show a great tendency to extend upwards within the wall of the gut, between the mucosa and the muscularis, which has gained for them the name of intramural abscess.

The author points out the fact that the infection in many cases occurs from the rectum by the lymphatics, without any obvious solution of continuity of the wall or connection with the abscess, and he insists strongly that the abscesses should be treated as abscesses and not as fistulæ, as in these cases a cure can often be obtained by free incision and drainage without opening them into the rectum or dividing the sphincters.

REACTION OF CENTRAL NERVOUS SUBSTANCE TO TETANUS TOXIN.

M. Almagia says that lecithin and cholesterin have the same physical properties toward tetanus toxin as the central nervous substance as a whole. They may be compared to receptors that in the nervous substance fix the tetanus toxins. The author looks upon these as factors of immunity against the toxin for the organism, while antagonistic to the toxin when they are in the circulation, because they seize upon the toxins before they attack the sensitive cells. He experimented as to whether the injection of cholesterin would prevent tetanic intoxication in animals. From many experiments on guinea-pigs he concluded that this procedure was valuable, since animals previously injected with cholesterin were not affected by tetanus toxin. He desires that experiments should be made in man.—*La Riforma Medica*.

TEST OF THE STRING-CUTTING METHOD FOR IMPERMEABLE ŒSOPHAGEAL STRICTURES.

In a paper in the *Medical Record* for November 30 Abbé gives a *résumé* of his original case treated by this method fifteen years ago ; this patient has been tested once a year since, and shows no sign of recurrence. In 1904 he treated

a second case in the same manner, with a very successful result at the time, but owing to failure to keep up the dilatation for sufficiently long the stricture recurred, and for its cure Abbé invented what he calls a string-cutting œsophagotome, by which the stricture can be divided without opening the stomach. This case is now in excellent health. Abbé's conclusions are:—(1) That most of the obstructive cicatricial strictures can be dilated from above, and should be so treated; (2) that those which are permeable only by a fine bougie offer great chance of serious perforation of the wall of the tube during dilatation where much force is needed to push it through; (3) that such as admit a probe of some size can be safely cut from above by the string-cutting œsophagotome; (4) and that very tight or impermeable ones can always be safely, quickly, and permanently cured by gastrostomy, followed by the string-cutting.

POTENTIAL AND ACQUIRED STATIC FLAT FOOT.

Ochsner, in the *Journal of the American Medical Association* for November 23, describes the condition of Potential and Acquired Static Flat Foot, and strongly recommends its treatment by careful application of plaster strapping. He puts his conclusions as follows:—

1. Flat foot is a very much more common affection, and causes much more discomfort and disability, than we are inclined to believe.

2. It is more apt to be caused by general muscular weakness than by weakness of special muscles or parts.

3. The earliest symptoms occur at a time of, and are caused by, the changes occurring at the age of puberty, and this is the time when the proper treatment is most effective.

4. The correct diagnosis is not made as often as it should be.

5. The treatment outlined is simple and effective, and can be applied in the individual case in a much shorter time than it requires to describe it.

PART IV.

MEDICAL MISCELLANY.

Reports. Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.
General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF OBSTETRICS.

President—E. H. TWEEDY, F.R.C.P.I.
Sectional Secretary—HENRY JELLETT, M.D.

Friday, February 7, 1908.

THE PRESIDENT IN THE CHAIR.

Ovum from Horn of Bicornuate Uterus.

THE PRESIDENT exhibited an ovum from the horn of a bicornuate uterus. It was, he said, a very perfect ovum, though now shrivelled in spirit. The woman, who had borne three or four children, had had persistent hæmorrhage since January. He made a tentative diagnosis of tubal pregnancy. He operated the following day, and, to his surprise, found a small uterus, with the tumour growing out from the side of it. When he split the tumour in the direction of the tube, the ovum came out, and it then appeared that he was dealing with a two-horned uterus. In thinking the case over, he was convinced that the woman would have carried her child to full term. She had had two miscarriages and three children, and they had all, he believed, developed in that horn. The whole question of operation in a two-horned uterus was in an unsettled state. They were led to suppose that even if they diagnosticated a pregnancy in a two-horned uterus, they should treat it as though it were a tubal pregnancy: but there was no doubt that there were many women who bore children in the presence of this abnormality. The size of the tumour might have led him to a correct diagnosis: it had grown enormously in the ten days between his examinations and the operation, yet it had not burst. He had never seen a tubal pregnancy so large without rupture taking place,

a fact which might have put him on the way to a correct diagnosis.

DR. HOLMES asked if anything had come away from the uterus since the operation, as it had recently been stated that false decidua would give rise to trouble in the other horn.

DR. NEILL asked if there had been any trouble with the former deliveries.

THE PRESIDENT, in reply, said that if they could diagnosticate that the pregnancy had taken place in the well-developed horn, everyone would agree that it should be left; but the difficulty of diagnosing between the horns was very great. In the case before them the undeveloped horn was as large as a normal uterus. Nothing had come from the uterus since; and, so far as he knew, all the other full term deliveries were normal and easy.

A Modification of Neville's Forceps.

SIR A. MACAN said it was not without a good deal of thought that he had ventured to make a modification in Dr. Neville's forceps, on which he had a stop put, so that by making a slight movement of the axis-traction handle, he could tell at once, without looking, that the pointer was in the right direction. He described in detail, with specimens, the development in the shape and mechanism of forceps, from the straight to the extra-curved German form.

DR. G. FITZGIBBON said that being able to utilise one's ears was an advantage, though he did not see the necessity of watching the perineum at the time the axis-traction was in use.

DR. HOLMES thought the addition of the small check was of great use in allowing the eyes to be taken off the forceps and the whole attention to be given to the perineum.

DR. SPENCER SHEILL said that although the Scottish forceps had a device by which a click would tell when they were pulling in the axis of the pelvis, it had the disadvantage of possibly nipping the vaginal mucous membrane; but the one shown had the advantage of the Simpson forceps without its disadvantages.

DR. NEILL and THE PRESIDENT also spoke, and

SIR A. MACAN replied.

A Vesicular Mole.

DR. SPENCER SHEILL exhibited a vesicular mole. He was, he said, somewhat disappointed, as he had entered it in the hope of being able to exhibit it as a case of a twin mole, one embryo

having been, so to speak, converted into the mole, and the other fairly normally developed. The patient had a marked history of twins in her own and her mother's family. She had aborted four times, one being a twin abortion. Afterwards, in a twin conception, she aborted one, and he subsequently delivered her of a full term child. The specimen shown was the next pregnancy. There was a marked amount of fibrous degeneration and a great deal of fibrous tissue and thickening, but there was no syphilitic history to account for it. The pathological report which had been kindly made by Dr. Rowlette, and which he read, not only disappointed his hope of being able to exhibit a specimen of a condition which had only been reported a couple or three times, but also drove him to the opinion that it was a case of what he might call mixed carneous and hydatidiform mole.

THE PRESIDENT said he had never seen a vesicular mole together with any portion of a formed foetus, as in Dr. Sheill's specimen. He did not, however, agree that it was a carneous mole. He would like to know if the specimen came away spontaneously or if it had been delivered manually.

DR. SHEILL, in reply, said the specimen was delivered by the natural contraction of the uterus. His opinion as to the nature of the mole was based on the naked eye appearance, and on considering again the pathological report, he bowed to the Pathologist's opinion, that it was not a carneous mole.

The Operative Treatment of Puerperal Infection.

SIR A. MACAN read a paper on the above subject, the discussion of which was, on the motion of Dr. Holmes, seconded by Dr. Ashe, postponed until the next meeting.

(a) *Twin Abortion with Double Placenta Prævia and a remarkable condition of the Cervix Uteri*; (b) *Labour Shock*.

A paper so entitled, by Prof. R. J. Kinkead, of Galway, was read by Dr. G. FitzGibbon, the Acting Secretary.

SIR A. MACAN and the PRESIDENT expressed the thanks of the Section to Prof. Kinkead, and the hope that other members in the country would contribute similar valuable papers.

Card Specimens.

The following card specimens were shown:—Dr. Tweedy—(a) Dermoid Cyst of Ovary containing teeth; (b) Ovarian Cyst specimens (2); (c) Fibroids of Uterus (3), one showing Cystic Degeneration; (d) Abscess of Ovary.

SECTION OF STATE MEDICINE. .

President—W. R. DAWSON, M.D.

Sectional Secretary—W. A. WINTER, M.D.

Friday, February 14, 1908.

THE PRESIDENT in the Chair.

Alcohol and Mental Disease.

THE PRESIDENT, after thanking the Fellows for electing him, said that his paper was intended merely as a contribution to a general discussion on alcohol. Apart from personal predilections, the uncertainty existing with reference to the effects of that drug was largely due to deficient appreciation of the influence of individual diathesis and of the varying effects of different doses. On reviewing the evidence it appears that with normal individuals, under appropriate circumstances, small doses properly diluted and taken with food not too frequently are physiologically beneficial. With larger doses the matter is otherwise. Alcohol was either taken in moderate doses frequently or in large doses occasionally. A drunken bout is not only a microcosm of insanity but indicates the probable course of chronic alcoholism in the same individual. Different persons show different symptoms. When alcohol is taken more continuously, though in small doses, the same order of degradation is observed—the “high-level” moral and other late-acquired qualities being first affected—then the motor and sensory functions, and, lastly, those of mere nutrition. Such a person is mentally abnormal, and given a faulty diathesis is certain to become technically insane, but there is no hard and fast line between the two conditions. Even of the technically insane all do not enter asylums, and, therefore, a complete estimate of the relation of mental disease to alcohol is impossible. Of asylum cases the prevailing opinion seems to be that about fifteen to twenty per cent. are due to alcohol, but the influence of the personal equation, the difficulty of ascertaining the facts of each case, the confusion of cause with effect, as well as other circumstances, render it almost certain that this estimate is too high. The regional distribution of insanity does not correspond with that of either alcoholism or drunkenness, and it seems probable that not more than ten per cent. of the asylum cases are genuinely attributable to alcohol. These, however, probably constitute the smaller part of the cases due to this cause, especially if those in which it was merely con-

tributory be counted. These latter must be numerous, owing to the susceptibility to alcohol of persons with any hereditary or acquired brain weakness. In parenthesis it may be noted that, though there is the strongest evidence of the evil effects of parental alcoholism upon the offspring, the question has really nothing to do with the transmissibility or otherwise of acquired characters, the phenomena being sufficiently explained by the deleterious action of the drug upon the germs of the future individual. Chronic alcoholism produces worse effects than occasional drunkenness, and bad spirits worse effects than pure ethyl-alcohol. As regards the forms of insanity due to alcohol, certain symptoms are suggestive of this cause—viz., impulsiveness, suspiciousness, confusion with hallucinations, loss of memory for recent events, and fabrication of imaginary occurrences. The most purely alcoholic forms are delirium tremens, Korsakoff's psychosis, hallucinatory-confusional insanity, and alcoholic dementia. In neuropathy we have mania *a potu* and chronic alcoholic insanity, including alcoholic mania, melancholia, and paranoia and the more severe forms of alcoholic dementia. Lastly, we have dipsomania. Pathologically the changes in the more chronic forms are found round the fissure of Rolando affecting chiefly the large pyramids. If alcohol be cut off, the mental improvement is usually rapid, but of the habit itself compulsory prolonged total abstinence is the only cure, though some of the drug and other treatments may assist.

THE MACDERMOT said he had, during the past seven years as Inspector of Prisons, visited one of the Irish prisons almost every week, and had tried to make himself familiar, as far as possible, with the penal and family records of the prisoners. He had, in addition, superintended the work of the State Inebriate Reformatory at Ennis during the past four or five years. It was from that field of observation—outside the general observations that one makes in the world—that he would speak. Those observations he had tried to reduce to order by bearing in mind two distinct theories on the question of alcoholism. The first was the neo-Darwinian theory, that a great number of the human species had an original taste for alcohol—a taste which, being natural, was not acquired. According to that theory, acquired habits were not transmissible, and since the taste for alcohol was original the only possible cure which he could see, in accordance with that theory, was the elimination of the drinker, and the only feasible way of accomplishing that end was to expedite the

catastrophe by multiplying the number of public-houses. With that theory he disagreed *in toto*; the facts of his experience did not fit in with it in any particular. The other theory had been called the theory of Lamarck—that a taste for alcohol was an acquired habit, and that acquired tastes were transmissible. The adoption of the latter theory would give great confidence and lead to greater interest in all temperance movements. History supplied them with instances of inebriate races which had become temperate, and which were an example of the transmissibility of temperance. His own observations of prisoners had shown him that the examples of the criminal type came mostly from the cities, and that their parents were of inebriate habit; while the prisoners who came from the country were not of the asymmetrical type, and were not the heirs of those transmissible qualities, including intemperance. In the matter of inebriety, Ireland was far behind England. He (The MacDermot) spoke of the favourable results of the treatment of inebriates at Ennis, and concluded by expressing his hopefulness for the future. The public had changed their point of view as regards alcohol; they no longer looked at it from the point of view of the pulpit or the philanthropist, but from the point of view, so to speak, of the College of Physicians. They all wished for health, strength, and longevity, and when the medical profession taught sound views on the use and action of alcohol he was satisfied that it would not be the elimination of the drinker which they would see, but the elimination of drink.

DR. WALTER SMITH said their chief knowledge of the scientific effects of alcohol was a quite recent growth, and he thought the turning point was reached by Schmiedeberg, who, with unanswerable arguments, demolished the view still held by many—that alcohol belonged to the class of stimulants. Alcohol was an essential member of the narcotic group of substances. That had been a great gain, and had put the medical profession on a better basis. Most medical men were much more cautious now than in his student days about the administration of alcohol, especially in acute disease. They had learned that most diseases got on better without alcohol, and they had learned that its careless use by their profession in the past had hurried many persons to premature graves. At the same time they had to guard against exaggerations and inexact statements appearing in recent writings on the subject, such as that alcohol is one of the most frequent causes of consumption. It was Utopian to

expect that legislation would make them a nation of teetotallers. It was a physiological fact of nature that people would have luxuries. One of the most important questions at the root of the matter was that of the nutritive value of alcohol. Physiologists told them that its possible value as a food was more than discounted by its harmfulness ; and it was said that moderate drinking had a most injurious influence on health and life, and that all alcoholic drinks should be avoided. If that was so, he would like to know how it was that the most progressive European nations were moderate drinkers. He believed the truth of the matter was that in limited quantities of alcohol ninety per cent. of it was oxidised in the body and furnished energy. It had been shown by experiment in America that alcohol could replace equivalent quantities of carbohydrates and fats, especially when the supply of these was deficient in their diet. To a person in health, on a sufficient diet, alcohol was absolutely unnecessary, and possibly injurious to some people ; but it was idle to deny its possible value as a food in some cases. No one drank pure alcohol, and its effects were infinitely modified by the other substances which were combined with it. It was absurd for a Royal Commission to try to answer the insoluble question—What is whisky ? They might as well ask—What is mud ? The points which related to the public in regard to alcohol were : (1) Its effects in producing visceral disease, (2) its leading to all sorts of crime, and (3) its influence on the nervous tissue. The last was a very complicated question, but there could be no doubt as to the deleterious effects of long-continued doses of alcohol on the brain. It was admitted by most physicians that the continued use of alcohol tended to cause glycosuria, which led to various mental symptoms. As regards treatment of alcoholics, he did not at all side with those who maintained that it was dangerous to withdraw alcohol suddenly, and he refused to undertake medical treatment unless he could at once put patients under conditions of abstinence.

DR. DONNELLY said the way to effect permanent good was to reach the coming generation by educating the present generation of fathers and mothers, especially the mothers. A great responsibility rested with the medical profession. In the past it had used its power, in regard to alcohol, to the detriment of the community, but a great deal of good was being done through the agency of the profession in putting before the people the physiological action of alcohol and the deleterious effects of over-indulgence.

It was exceedingly unwise of physicians to permit alcohol as a beverage without marked restrictions as to its discontinuance after a time. It should not be prescribed in any respect except as a drug, and in his opinion should never be given to mothers who were suckling their infants.

DR. DELAHOYD, who confessed himself a life-long total abstainer who had never tasted any liquor that was brewed or distilled, said he did not think that statistics fully represented the amount of insanity which was directly traceable to alcohol. He had known many cases of insanity which had never gone to an asylum or hospital, and which would not be included in the returns on which they based their deductions. He himself on occasions prescribed alcohol, but always under strict conditions.

DR. FALKINER agreed with Dr. Delahoyd that the mortality from alcohol was not really stated in the statistics. They had very often to look to the mortality of certain diseases of the nerves and the viscera, and of pneumonia, to get a reliable idea of the number of deaths that were directly due to alcohol. In regard to insanity also statistics were very misleading; he doubted if, in many cases, insanity was the cause of mortality at all. A great number of lunatics died of tuberculous diseases and dysentery. The term "alcoholic poisoning" was a loose one, and he had taken the trouble to get particulars which would enable him to judge whether persons so certified had actually died of acute alcoholic poisoning.

DR. STRITCH said that one of the greatest evils of alcoholism was the indiscretions which it might lead an individual into; and there was little hope for the cure of the chronic drunkard unless they could get his active co-operation.

DR. BEWLEY said that the causation of insanity was complex. Alcohol affected the mind injuriously, but of itself it did not cause insanity unless there was something else present—something which he might call a congenital predisposition to insanity. It was quite impossible to ascertain all the factors or to place much reliance on arguments based on statistics which referred to such complicated matters as alcohol and insanity.

DR. WINTER said that, in his experience, the people who felt most benefit from alcohol were those of a nervous type. If the medical profession was more sparing in recommending alcohol to such people it would do a certain amount of good in battling against the evil done by the drug.

THE PRESIDENT replied.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, March 21, 1908.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending March 21, 1908, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 24.7 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,131,959. The deaths registered in each of the four weeks ended Saturday, March 21, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	Feb. 29	Mar. 7	Mar. 14	Mar. 21			Feb. 29	Mar. 7	Mar. 14	Mar. 21	
22 Town Districts	21.3	27.2	26.4	24.7	24.9	Lisburn -	22.7	22.7	36.4	13.6	23.9
Armagh -	—	20.6	55.0	13.7	22.3	Londonderry	17.0	29.2	19.5	17.0	20.7
Ballymena	23.9	19.2	4.8	23.9	18.0	Lurgan -	22.1	35.4	26.6	17.7	25.4
Belfast -	22.8	29.6	26.5	26.9	26.4	Newry -	4.2	25.2	25.2	16.8	17.9
Clonmel -	15.4	20.5	30.8	20.5	21.8	Newtownards	17.2	17.2	17.2	17.2	17.2
Cork -	24.7	31.5	30.8	24.7	27.9	Portadown	20.7	31.0	20.7	25.8	24.6
Drogheda -	12.3	24.5	24.5	20.4	20.4	Queenstown	—	33.0	6.6	26.4	16.5
Dublin - (Reg. Area)	21.0	24.1	24.8	23.9	23.5	Sligo -	43.2	24.0	43.2	—	27.6
Dundalk -	12.0	19.9	12.0	19.9	16.0	Tralee -	21.1	47.6	47.6	79.3	48.9
Galway -	15.5	15.5	19.4	46.6	24.3	Waterford	27.3	29.2	37.0	25.3	29.7
Kilkenny -	14.7	24.6	24.6	24.6	22.1	Wexford -	28.0	18.7	32.7	23.3	25.7
Limerick -	21.9	35.5	35.5	20.5	28.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, March 21, 1908, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in fourteen of the districts to 31.7 in Tralee—the 15 deaths from all causes registered in that district including 6 from measles. Among the 196 deaths from all causes registered in Belfast are 7 from measles, one from typhus, 5 from whooping-cough, one from enteric fever, 5 from diarrhoeal diseases, and 2 from cerebro-spinal fever. One of the 14 deaths from all causes in Londonderry is from whooping-cough. Included in the 12 deaths from all causes in Galway is one from enteric fever. Among the 5 deaths registered in Dundalk is one from whooping-cough, and one death from whooping-cough is included in the 4 deaths from all causes registered in Lurgan.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 394,525, that of the City being 303,874, Rathmines 36,087, Pembroke 28,183, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, March 21, 1908, amounted to 153—87 boys and 66 girls; and the deaths to 193—106 males and 87 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 25.5 in every 1,000 of the population. Omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the Area, the rate was 23.9 per 1,000. During the twelve weeks ended with Saturday, March 21, 1908, the death-rate averaged 26.5, and was 2.3 below the mean rate for the corresponding portions of the ten years, 1898-1907.

The deaths from all causes, which amounted to 193, include one death from measles, one from scarlet fever, one from whooping-cough, one from enteric fever, and 8 deaths from influenza. In each of the three preceding weekly periods, deaths from measles were 1, 0, and 0; deaths from scarlet fever were 0, 1, and 0,

deaths from whooping-cough were 3, 2, and 0; deaths from enteric fever were 0, 2, and 1; and deaths from influenza were 9, 7, and 7.

Eight deaths were caused by broncho-pneumonia and 9 by *pneumonia* (not defined).

Of 38 deaths from all forms of tuberculous disease, 26 were due to tubercular phthisis (*phthisis*), 6 to tubercular meningitis, and 6 to other forms of the disease. In the three preceding weeks, deaths from all forms of tuberculous disease numbered 39, 37, and 36, respectively.

Carcinoma caused 2 deaths, and there were 6 deaths from cancer (undefined).

The deaths of 2 infants, prematurely born, were registered.

Deaths from diseases of the brain and nervous system numbered 17, and included 8 from *convulsions*. Of these, 4 were of infants under one year of age and 4 were of children between the ages of one year and 5 years.

Diseases of the heart and blood vessels accounted for 29 deaths, and there were 22 deaths from bronchitis.

Not one death from violence was registered during the week under notice.

In 4 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 children under 5 years of age (including 2 infants under one year old) and the death of one person aged 78 years.

Forty-five of the persons whose deaths were registered during the week were under 5 years of age (26 being infants under one year, of whom 4 were under one month old) and 64 were aged 60 years and upwards, including 31 persons aged 70 and upwards, of whom 9 were octogenarians, and one (a male) was stated to have been aged 90 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary

Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended March 21, 1908, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epi- demic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Cyrexia of uncertain origin	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping cough	Cerebro-spinal Fever	Total
City of Dublin	Feb. 29	-	*	*	4	-	-	5	-	5	9	13	-	-	*	*	36
	Mar. 7	-	*	*	5	-	-	9	-	4	7	11	1	-	*	*	37 ^a
	Mar. 14	-	*	*	5	-	-	5	-	1	5	3	-	-	*	*	19 ^a
	Mar. 21	-	*	*	3	-	-	6	-	-	4	17	1	-	*	*	31
Rathmines and Rathgar Urban District	Feb. 29	-	*	*	2	-	-	-	-	-	1	1	-	-	*	*	4
	Mar. 7	-	*	*	-	-	-	-	-	-	1	1	-	-	*	*	1
	Mar. 14	-	*	*	-	-	-	-	-	-	-	2	-	-	*	*	5
	Mar. 21	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
Pembroke Urban District	Feb. 29	-	-	-	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 7	-	4	-	-	-	-	-	-	-	2	-	-	-	*	*	8
	Mar. 14	-	3	-	2	-	-	-	-	-	1	1	-	-	*	*	7
	Mar. 21	-	12	-	1	-	-	-	-	-	-	-	-	-	*	*	14
Blackrock Urban District	Feb. 29	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 7	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 14	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 21	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
Kingstown Urban District	Feb. 29	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 7	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 14	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
	Mar. 21	-	*	*	-	-	-	-	-	-	-	-	-	-	*	*	-
City of Belfast	Feb. 29	-	*	*	2	-	-	6	-	2	5	4	-	-	*	*	23
	Mar. 7	-	*	*	1	-	-	4	1	5	5	17	-	-	*	*	34
	Mar. 14	-	*	*	2	1	-	6	2	9	5	7	-	-	*	*	34
	Mar. 21	-	*	*	5	-	-	6	2	8	6	7	1	-	*	*	38

(a) Not including one case of cerebro-spinal fever reported during the week ended March 7, and one case during the week ended March 14.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

Ten cases of measles were admitted into hospital during the week ended March 21, 1908, 7 were discharged, and 27 cases remained under treatment at its close.

Ten cases of scarlet fever were admitted to hospital, 6 were discharged, there was one death, and 46 cases remained under

treatment at the close of the week. This number is exclusive of 7 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

There was not one case of typhus under treatment in hospital during the week.

Eight cases of diphtheria were admitted to hospital, 4 were discharged, there was one death, and 22 patients remained under treatment at the close of the week.

Four cases of enteric fever were admitted to hospital during the week, 2 were discharged, and 36 cases remained under treatment in hospital at the close of the week.

In addition to the above-named diseases, 9 cases of pneumonia were admitted to hospital, 9 were discharged, and 26 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, March 21, 1908, in 76 large English towns, including London (in which the rate was 15.8), was equal to an average annual death-rate of 16.9 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 18.5 per 1,000, the rate for Glasgow being 20.8 and for Edinburgh 14.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended March 21. From this Report it appears that of a total of 58 cases notified 37 were of scarlet fever, 5 of diphtheria, 2 of erysipelas, 2 of small-pox, and 1 of enteric fever.

Among the 372 cases of infectious diseases in hospital at the close of the week were 194 cases of scarlet fever, 56 of measles, 32 of diphtheria, 12 of whooping-cough, 11 of small-pox, 7 of erysipelas, 6 of cerebro-spinal fever, and 4 of enteric fever.

DEATH-RATE AND CAUSES OF DEATH IN DUBLIN DURING 1907.

In the Dublin Registration District at large the death-rate was 23.1 per 1,000 of the population annually, compared with 22.4 in 1906. Within the city proper the corresponding figures were—1907, 24.7; 1906, 24.1; and in the suburbs, in 1907, 17.9, compared with 16.8 in 1906.

Reference to the Yearly Summary for 1907 of the Weekly

Returns of Births and Deaths in the Dublin Registration Area, published by the Registrar-General for Ireland, reveals a noteworthy and satisfactory decrease in the mortality from *enteric fever* during the past eleven years in that area. In the first three of the eleven years the average annual number of deaths from the disease in question was 181; in the second three years of the period the average fell to 120 deaths; in the third three years it further declined to 77 deaths; in 1906 only 54 deaths were registered as due to enteric fever, and in 1907 the deaths from this fever fell to 38. Of these, 32 occurred in the County Borough of Dublin, and 6 in the suburbs, exclusive of Blackrock, in which district not one death from enteric fever was registered, nor was any case of the disease notified. The total number of cases notified in 1907 in the Dublin Registration Area under the Act of 1889 was 379, and the cases admitted to hospital for treatment numbered 293.

Whooping-cough was the most fatal epidemic of 1907. The deaths registered as due to this disease numbered 228, and represent an annual death-rate of 0.58 per 1,000 of the estimated population of the metropolitan area. The 228 deaths are also largely in excess of the yearly average (164) for the ten years, 1897-1906.

Although the mortality from *diarrhœal diseases* stands highest after that from whooping-cough among the principal epidemic diseases for the year under notice, nevertheless the deaths registered (205) are far below the average (345) for the preceding ten years. This satisfactory result was, no doubt, in large measure due to the cool, rainy summer and autumn of 1907. Of the 205 deaths, 170 were of children under five years of age. The total deaths do not include 50 of children under five years of age, which were attributed to "gastro-enteritis."

The deaths caused by *typhus fever* and registered were 8 in number, or double the average for the ten preceding years. During 1907, 55 cases of typhus were notified to the Public Health Authority of the City of Dublin.

The most disquieting fact in the "bills of mortality" for the past year is the high death-rate from *pneumonia*—1.97 per 1,000 of the population, as against an average annual rate of 1.59 in the previous ten years. Under the general head of "pneumonia," the deaths amounted to 770. In addition, 121 deaths were attributed to *influenza*.

Of 46 deaths from *cerebro-spinal fever*, 13 were registered in the March quarter, 22 in the June quarter, 5 in the September quarter, and 6 in the December quarter.

Lastly, it is a matter of the gravest importance to report that, out of an aggregate number of 9,447 deaths registered in the Dublin Registration Area in 1907, 1,793—that is, almost 19 per cent., or nearly one death in every five—were due to tuberculosis. This figure represents a death-rate of 4.59 per 1,000 of the estimated population of the Metropolitan Area, compared with 4.55 in 1905 and 4.47 in 1906. The total includes 540 deaths from tubercular consumption, 643 from “phthisis” (1,183 in all from pulmonary tuberculosis), 202 from tubercular meningitis, 72 from tubercular peritonitis (including 24 returned as “tabes mesenterica”), and 336 deaths from other forms of tuberculosis, including 2 deaths returned as “scrofula.”

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of March, 1908.

Mean Height of Barometer	-	-	-	29.809 inches.
Maximal Height of Barometer (14th, at 9 p.m.)	30.199	„		
Minimal Height of Barometer (6th, at 5 a.m.)	28.994	„		
Mean Dry-bulb Temperature	-	-	-	41.2°.
Mean Wet-bulb Temperature	-	-	-	38.9°.
Mean Dew-point Temperature	-	-	-	36.0°.
Mean Elastic Force (Tension) of Aqueous Vapour	.213	inch.		
Mean Humidity	-	-	-	82.6 per cent.
Highest Temperature in Shade (on 8th)	-	57.0°.		
Lowest Temperature in Shade (on 5th)	-	30.0°.		
Lowest Temperature on Grass (Radiation) (5th)	-	26.9°.		
Mean Amount of Cloud	-	-	-	54.4 per cent.
Rainfall (on 22 days)	-	-	-	2.940 inches.
Greatest Daily Rainfall (on 5th)	-	-	-	.703 inch.
General Directions of Wind	-	-	W., W.N.W., N.W.	

Remarks.

An unsettled, cold and rainy month—the mean temperature was only half a degree Fahrenheit above that of January and was actually 2.8° below that of February. The mean minimum temperature in the screen was only 36.1°, compared with 37.1° in

January and 40.7° in February, and the mean minimum temperature on the ground was 33.2° , compared with 33.8° in January and 32.4° in February. The mean maximum temperature was 47.8° , compared with 45.9° in January and 48.8° in February.

True to the ancient adage, March "came in like a lion," and the first week of "March many weathers" was changeable, cold, at times blustering, and with a copious rainfall (1.011 inches on 6 days). Except in the middle of the second week, the weather was again unsettled and changeable, as well as for the most part cold. The third week was distinctly cold and changeable, though very fine, bright intervals occurred. The wind was light and variable, blowing chiefly from cold points of the compass. In the fourth week an anticyclone held over the North of Russia, the Baltic and Scandinavia, whereas areas of low atmospheric pressure moved along devious paths over the troubled waters of the Atlantic Ocean between the British Isles and Greenland. During the last three days stormy, cold weather prevailed, the advent of spring being postponed to April.

In Dublin the arithmetical mean temperature (42.0°) was 1.7° below the average (43.7°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 41.2° . In the forty-three years ending with 1907, March was coldest in 1867 and 1883 (M.T. = 39.0°), and warmest in 1903 (M.T. = 48.1°). In 1907 the M.T. was 46.5° .

The mean height of the barometer was 29.809 inches, or 0.107 inch below the corrected average value for March—namely, 29.916 inches. The mercury rose to 30.199 inches at 9 p.m. of the 14th and fell to 28.994 inches about 5 a.m. of the 6th. The observed range of atmospheric pressure was, therefore, 1.205 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 41.2° . Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{Max.} - \text{Min.} \times .425)$, the M.T. becomes 41.8° . The arithmetical mean of the maximal and minimal readings was 42.0° , compared with a thirty-five years' (1871-1905) average of 43.7° . On the 8th the thermometer in the screen rose to 57.0° —wind, W.S.W.; on the 5th the temperature fell to 30.0° —wind, S. The minimum on the grass was 26.9° , on the 5th.

The rainfall was 2.940 inches, distributed over 22 days. The average rainfall for March in the thirty-five years, 1871-1905, inclusive, was 1.910 inches, and the average number of rain-days

was 17.0. The rainfall, therefore, and the rain-days were much above the average. In 1867 the rainfall in March was very large—4.972 inches on 22 days. On the other hand, the smallest March rainfall was .288 inch on 8 days in 1893. In 1907 the rainfall was 1.934 inches on 19 days.

The atmosphere was foggy in the city on the 4th, 12th, 16th, 18th, 19th and 20th. High winds were noted on 11 days, reaching the force of a gale on 6 occasions—namely, the 6th, 8th, 9th, 22nd, 29th and 30th. Snow or sleet occurred on the 1st, 3rd, 4th, 6th, 19th and 20th; hail fell on the 1st, 3rd, 10th, 19th and 22nd. A solar halo appeared on the 11th and 28th, and a lunar halo on the 9th. Temperature reached or exceeded 50° in the screen on 10 days, compared with 25 days in 1907, 17 days in 1906, 20 in 1905, 10 in 1904, 18 in 1903, 23 in 1902, and only 6 in 1901. It fell to 32° in the screen on 3 nights. The minima on the grass were 32° or less on 16 nights, compared with 9 nights in 1907, 12 nights in 1906, 8 nights in 1905, 13 in 1904, 4 in 1903, 5 in 1902, and 11 in 1901.

The rainfall in Dublin during the three months ending March 31st amounted to 6.367 inches on 58 days, compared with 3.666 inches on 42 days in 1907, 7.291 inches on 59 days in 1906, 5.378 inches on 46 days in 1905, 7.938 inches on 55 days in 1904, 9.126 inches on 61 days in 1903, 5.114 inches on 43 days in 1902, 5.656 inches on 46 days in 1901, and a thirty-five years' (1871–1905 inclusive) average of 6.130 inches on 50.0 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. William J. Good, reports that the mean height of the barometer was 29.806 inches, the lowest reading observed being 29.094 inches at 9 p.m. of the 8th, the highest, 30.193 inches at 9 p.m. of the 14th. The mean temperature was 42.4°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 42.1°. The screened thermometers rose to 57.9° on the 8th, and fell to 28.1° on the 5th. The grass minimum was 20.9° on the 5th, while the black bulb *in vacuo* rose in the sun to 100.8° on the 22nd. The mean daily maximum was 48.6°; the mean daily minimum, 36.1°; and the mean daily minimum on the grass, 30.6°. Rain fell on 20 days to the amount of 2.765 inches, .701 inch being measured on the 5th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 104.0, giving a daily average of 3.4 hours.

There were 8.1 hours of bright sunshine on the 25th. The mean temperature of the soil at 9 a.m. at a depth of one foot was 41.7° ; at a depth of 4 feet, it was 43.9° . During the month the subsoil temperature at 4 feet decreased from 44.5° on the 1st to 43.1° on the 8th, and then increased from 43.1° on the 8th to 44.8° on the 31st.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, 3.130 inches of rain fell on 17 days. The maximal fall in 24 hours was .78 inch on the 5th.

At Clonsilla, Greystones, Dr. Arthur G. Price recorded a rainfall of 3.51 inches on 21 days, the maximum in 24 hours being .78 inch on the 5th. The mean temperature of the month was 41° , the extremes being—lowest, 28° , on the 4th; highest, 59° , on the 8th. The total rainfall at Clonsilla, Greystones, since January 1, equals 5.99 inches on 46 days.

Dr. L. T. Burra, Resident Medical Officer, reports that the rainfall at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, was 3.814 inches on 23 days, the maximal fall in 24 hours being .925 inch on the 5th. The mean mean air temperature was 43.5° —the extremes being—highest, 57.1° on the 8th; lowest, 31.8° on the 5th.

At White Cross, Stillorgan, Miss Muriel E. O'Sullivan measured 3.590 inches of rain on 22 days, the maximum in 24 hours being .840 inch on the 5th. At this station the rainfall in the first quarter of 1908 equals 6.907 inches on 63 days, compared with 6.398 inches on 48 days in 1905, 7.810 inches on 56 days in 1906, and 2.958 inches on 41 days in 1907.

Mr. T. Bateman returns the rainfall at the Green, Malahide, Co. Dublin, as 2.45 inches on 20 days, compared with 3.473 inches on 24 days in 1905, 1.071 inches on 15 days in 1906, and 1.677 inches on 15 days in 1907. The greatest rainfall in 24 hours was .565 inch on the 5th. The extremes of temperature in the shade were—highest, 55° , on the 8th; lowest, 24.5° , on the 4th; the mean temperature being 39.1° .

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 24 days to the amount of 3.56 inches, compared with 2.20 inches on 13 days in 1901, 1.98 inches on 18 days in 1902, 4.53 inches on 28 days in 1903, 2.50 inches on 21 days in 1904, 3.31 inches on 28 days in 1905, 1.80 inches on 17 days in 1906, and 1.62 inches on 18 days in 1907. The greatest daily rainfall was .89 inch on the 5th. The temperature in the

shade ranged from 55° on the 8th to 30° on the 2nd and 5th. The mean shade temperature was 41.8°, compared with 41.2° in 1901, 46.4° in 1902, 45.7° in 1903, 41.1° in 1904, 45.0° in 1905, 43.9° in 1906, and 46.3° in 1907. Since January 1st, 1908, the rainfall at this station amounts to 7.01 inches on 63 days, compared with 6.71 inches on 40 days in the first quarter of 1901, 7.02 inches on 43 days in 1902, 11.36 inches on 62 days in 1903, 10.14 inches on 67 days in 1904, 6.76 inches on 56 days in 1905, 8.67 inches on 56 days in 1906, and 3.45 inches on 38 days in 1907.

Dr. C. Joynt, F.R.C.P.I., returns the rainfall at 21 Leeson Park, Dublin, as 3.260 inches on 23 days, .850 inch being measured on the 5th.

Mr. W. Miller registered 4.00 inches of rain at Cork on 21 days. The greatest fall in 24 hours was .90 inch on the 21st. The rainfall was 1.33 inches in excess of the average for March. The rainfall of the first quarter of 1908 was 7.67 inches, or 2.63 inches less than the average.

The Rev. Arthur Wilson, M.A., writing from Dunmanway Rectory, Co. Cork, states that 6.48 inches of rain fell there in March on 25 days, 1.43 inches being measured on the 21st, 1.12 inches on the 30th, and .77 inch on the 5th.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 24 days to the total amount of 2.124 inches, the largest measurement being .345 inch on the 5th. The duration of bright sunshine was 116.9 hours, of which 9.3 hours occurred on the 25th.

A NEW CLINICAL CHART.

DR. LEONARD KIDD, M.D. Dubl., Surgeon to the Fermanagh County Infirmary, Enniskillen, has designed a novel and very complete clinical chart. It is a combined morning and evening and 6-hourly temperature and clinical chart. The spaces for M. and E. records are bounded by alternating heavy black and green vertical lines, while the spaces for 6-hourly records are bounded by the heavy black lines between which the green and thin black lines sub-divide the daily spaces into four. Additional observations as to the patient's condition, the administration of enemata, &c., can be recorded between the vertical lines of the temperature chart, which is bordered by both Fahrenheit's and the centigrade scales. The "Chart No. 3" is one of a series. It is copyright, and is published by Messrs. John Bale, Sons & Danielsson, Limited, of London.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Analgesic Balm.

THIS preparation, introduced by Messrs. Parke, Davis & Company, of Beak Street, Regent Street, London, W., is a combination of methyl salicylate, menthol and lanoline. It forms an efficient means of applying these remedies in the treatment of arthritic inflammations and painful affections generally. It is very effectual in nerve pains in trigeminal and intercostal neuralgias, sciatica, &c., and applied to the forehead, in frontal headache or migraine it affords relief from pain. It also forms a very useful dressing for small contusions and for sprains, provided the skin is not broken. The collapsible tubes in which it is packed are very convenient for storage or transport, and for expelling the necessary quantity for the occasion, whilst the bulk is in no way exposed to deterioration.

Gelatin-coated Pills, Aloin and Phenolphthalein Compound.

THIS combination of aloin, strychnin, belladonna, phenolphthalein and ipecacuanha in the proportions stated on the label has been found very effective in the treatment of chronic constipation and for the relief of migraine, hepatic torpor, and kindred disorders. The ingredients are carefully assayed to ensure reliable activity, and the pill operates promptly and thoroughly, yet without discomfort, whilst its gelatin coating effectually conceals the taste of the medicaments. The pills are supplied in bottles of 100 and 500 by Messrs. Parke, Davis & Company, Beak Street, Regent Street, London, W.

A "Christia" Accouchement Sheet.

MESSRS. THOMAS CHRISTY & Co., 4, 10 & 12 Old Swan Lane, Upper Thames Street, London, E.C., have forwarded to us a "Christia" accouchement sheet, which they are introducing to take the place of the ordinary rubber sheet for lying-in cases. The price of this sheet to the public is only 1s. 9d., which is within the means of the great majority. As the material is simply a very strong "Christia"—a substance which was introduced by the same Firm some years ago—we may simply mention that it has exactly the same characteristics as that material, being proof to hot or cold water, oil, spirit and grease. Another great advantage is that neither time nor climate affects it.

In Memoriam.

JOHN BYRNE POWER, M.R.C.P.I., L.R.C.S.I., D.P.H.

WE deeply regret to record the death of DR. JOHN BYRNE POWER, one of the Fellows of the Royal Meteorological Society, which took place on August 30, 1907, at his residence, Kingstown, Co. Dublin.

For many years he filled the important post of Medical Superintendent Officer of Health at Kingstown, where by his ability and energy he accomplished great reforms and made most important studies of its climate. He was a most earnest, capable, and conscientious worker, and deserves special notice at our hands.

DR. POWER was born in Dublin in 1834, and was the eldest son of the late James Power, Esq., of Hazelbrook, Rathfarnham, Co. Dublin. In early life he suffered greatly from delicate health, and, being at that time of independent means, did not enter upon a professional career until somewhat advanced in years.

At first he studied law, but his taste did not lie there, so later on he entered the medical profession. The present writer, who knew him most intimately, can testify to his high intelligence and accurate mind, as well as to his persevering diligence as a student. Delicate as he was he possessed remarkable courage and devotedness, and on one occasion held on, as resident, in a large hospital crowded with cases of small-pox, while others left in terror.

Soon after he had taken out his medical and surgical qualifications he was appointed Senior Physician to St. Michael's Hospital, Kingstown, where he had ample opportunities for the scientific pursuit of his profession.

During his tenure of office there he carried out elaborate studies and experiments on the subject of the elimination of nitrogen compounds from the blood. His essay on this subject is a model of patient and thorough scientific work and research. In it he proved, for the first time, that the skin has very limited power to carry off these compounds ;

In Memoriam.

a fact which has a most important bearing on treatment in many crises of illness.

DR. POWER contributed many very valuable essays on medical subjects :—" On the Powers and Duties of Sanitary Inspectors " ; " The Climates of Kingstown and of the South of England compared " ; " On the Public Health of Kingstown " ; " On the Danger to Public Health caused by Milch Cows drinking Sewage," &c., &c.

Of latter years, since his appointment as Medical Superintendent Officer of Health for Kingstown, DR. POWER devoted himself heart and soul to that department, and by his careful records of temperature, winds and rainfall succeeded in proving that the climate of Kingstown is actually superior in many respects to that of any of the well-known health resorts on the South Coast of England. He was Port Medical Officer at Kingstown.

DR. POWER was a gentleman of wide reading and high culture, an excellent musician, and had travelled extensively. He was of charming personality, genial and amiable to all, and universally beloved.

In 1894 he married Miss Armstrong, daughter of the late Major-General Armstrong. She survives to mourn his loss with his many friends and admirers.

F. R. C.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JUNE 1, 1908.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVII.—*Some Unusual Pulmonary Cases.*^a By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I.; Physician, Royal City of Dublin Hospital.

I. IDIOPATHIC PNEUMOTHORAX.

PNEUMOTHORAX occurring suddenly in individuals apparently in sound health, and without any definite cause, such as injury or violent strain, is a phenomenon sufficiently striking to attract attention and to render speculation as to the underlying morbid change a matter of interest, more especially in those cases which recover completely and remain for years subsequently in good health. The condition, though rare as compared with other pulmonary diseases, has attracted much attention, and the medical literature of the last twenty-five years contains, in addition to three important papers on the subject, numerous scattered reports of individual cases. The three important papers referred to were published in the years 1882, 1887 and 1902 respectively, and contain records of all reported cases up to these dates. The first, by West, contains references to twenty-four records in all. In the

^aRead before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, March 6, 1908.

second F. de Havilland Hall was able to raise that number to thirty-one; while in the third Fussel and Reisman have collected fifty-five. Since 1902 a few more cases have been added, but doubtless many cases are not put on record, as most systematic writers on diseases of the lungs refer to the occurrence of such cases in their practice without giving any detailed account of them. It is not now my intention, therefore, to endeavour to bring the roll up to date by the enumeration of all the cases published since Fussel and Reisman's paper, more especially since none have been recorded which throw any fresh light upon the condition. I desire merely to report a case which came under my own notice some two years ago, and which I have had an opportunity of following closely up to the present time. This is the second case of the disease that I have met with, for during my first year's hospital work I had the good fortune to see a recurrent case of the disease which was under Professor Finny's care at Sir P. Dun's Hospital, and which he reported very fully in the DUBLIN JOURNAL OF MEDICAL SCIENCE for April, 1898.

The notes on my case are as follow :—

J. W., a commercial traveller, aged twenty-three, was admitted to the Royal City of Dublin Hospital on January 11, 1906, complaining of pain in the chest and difficulty of breathing. He stated that four days previous to admission, when in perfect health, he was passing through the hall of his house, intending to go out, and that on reaching the door and raising his hand to the latch he was suddenly seized with a violent pain in the right side of the chest, and with difficulty of breathing. The pain was so severe that he was compelled to sit down, and shortly afterwards was assisted to bed. My colleague, Dr. Stoney, saw him some hours later, and then detected unequivocal signs of pneumothorax on the right side of the chest.

As regards his previous history, the patient said that he had never been ill before, and that he had not had any cough prior to his present attack. The family history was unimportant.

On admission, the patient was found to be a tall, rather thin, but well-made man, extremely muscular, and of good general development. He was suffering greatly from dyspnoea, and the

veins in his neck were somewhat distended. Examination of his chest showed the right side to be quite immobile and much larger than the left. The heart was much displaced, with the apex beat in the left anterior axillary line. Vocal resonance and fremitus were absent over the right side, as were also the breath sounds. A loud tympanitic note was obtainable all over the right side, and extended beyond the middle line to the left margin of the sternum. The *bruit d'airain* was beautifully heard, but no metallic tinkling was audible, although there was some free fluid at the base of the pleural cavity, as proved by the presence of a succussion sound and by shifting dullness at the base of the chest behind. The liver was slightly displaced downwards. There was a small amount of mucoid expectoration, which was frequently examined for tubercle bacilli, but with negative results. The temperature was 100° F., and the pulse 108 to the minute.

Soon after admission strapping was applied to the chest, but this increased his dyspnœa and the sense of oppression in his chest, and had to be removed some hours later. Next day the dyspnœa was still extreme and the cardiac displacement greater, so I determined to puncture the chest wall and relieve the tension. Before doing so, however, I asked Dr. Parsons to see the case with me, and on his concurring in the advisableness of doing so, I introduced a trocar and cannula into the sixth intercostal space in the mid-axillary line, with the result that there was an immediate outburst of air and some clear serous fluid. The patient's distress was at once relieved, and shortly afterwards he fell asleep. The cannula was left in position for about a week, and was then removed. The patient steadily recovered, the physical signs of pneumothorax slowly disappeared, and he left hospital on the 8th of February without any very noticeable difference between the breath sounds as heard on the right and left sides respectively. Since that date I have examined the patient on several occasions, and have invariably found an absence of any physical signs of disease in his chest. He has returned to his work, has gained weight, and looks healthy and vigorous in every way.

The above case agrees in its general history with the majority of cases of the kind that have been reported. Fussell and Reisman point out that the condition is nine times more common in men than in women, and that it is most often met

with between twenty and forty years of age. In most cases, however, there is a history of some sudden strain at the moment of rupture of the lung or some convulsive effort, such as a violent fit of coughing or a sneeze. That strain is not an essential feature of the clinical history, however, seems to be shown by the present case and by the report of a case in a woman in whom the rupture occurred during sleep. The large majority of cases recover in from one to two months, and in most of them it has been unnecessary to tap the pleura. In only a few, moreover, has any fluid effusion been present.

The problem as to the ætiology of the disease has given rise to various theories, none of which, however, can be subjected to the test of actual investigation by inspection of the pleural surfaces so long as the present happy termination is met with in almost all the cases. Hall supposes that in every case some small tubercular patch is present, situated elsewhere than in the apex of the lung, and that the rupture of this prior to the formation of limiting pleural adhesions furnishes the required explanation. Against this view being correct in all cases, however, we have the following facts:—(1) That many cases have been followed for years after the occurrence, and that in none of them did pulmonary tuberculosis develop; (2) one fatal case was observed by Ranking and Devillin, in which no tubercular tissue was found at autopsy; (3) Chauffard and Osler report a case which gave no reaction to tuberculin; (4) in the present case the opsonic index for the tubercle bacillus was found to be normal.

Another and more likely view is that it is produced by the rupture of some small emphysematous bulla, such as may often be found here and there on the surface of comparatively healthy lungs. This theory is strongly opposed by many writers, who argue that no sign of emphysema is to be found by clinical examination of the individuals concerned. This statement is undoubtedly correct, but does not invalidate the theory as stated. A third theory would put the *onus* upon the stretching, by muscular strain, of pleural adhesions and the tearing away of a small piece of lung tissue. Looking over the reports of cases I am inclined to believe that the most likely

cause in most cases is the second one referred to, as such a theory would explain the fact that in many instances the disease has occurred at different times on both sides, and has even recurred on the same side in at least one reported case. The rupture of an emphysematous bulla could hardly, however, explain a case reported by Lunchi, in which a pneumothorax occurred on the left side in a patient, and was followed some months after apparent complete recovery by a pneumopericardium developing suddenly and without strain. In such a case as this it seems necessary to assume adhesion between lung and pericardium, and probably the breaking down of the adhesions by extension of the disease which caused them. If this disease was tuberculosis, and if tuberculosis is a cause in some cases, the subsequent complete recovery may perhaps be attributed to the rather drastic remedy invented by nature itself. The same therapeutic means has been employed by man, but with only scant success in advanced cases of phthisis pulmonalis.

II. ACUTE SUFFOCATIVE PULMONARY ŒDEMA.

The following two cases, which occurred during the last few weeks under my care in the Royal City of Dublin Hospital, illustrate a condition which has not, I think, received the attention that it deserves. The name which I use to designate it is that which was employed by Professor Lindsay Steven, of Glasgow, in a paper on the subject in the *Lancet* for January 11, 1902, and since then the same name has been applied to a similar but recurrent œdema of the lungs by H. M. Hewlett.^a As Lindsay Steven points out, very little notice has been taken of these cases, and in particular they appear to have escaped the attention of the text-book compiler. It is not even referred to in Sir Isambard Owen's "Clinical Lecture on Œdema of the Lungs," which appeared in the *British Medical Journal* for January 2, 1904, and in which he appears to only recognise the chronic variety. The following are brief notes of my cases :—

CASE I.—W. B., male, aged thirteen, was first seen about two years ago as an out-patient. He was then suffering from chorea,

^a H. M. Hewlett. *Australasian Med. Journ.* December, 1903.

and had a well-marked systolic mitral murmur, the result of several previous attacks of acute rheumatism. He remained under my observation as an out-patient until November, 1904, when he was admitted to hospital, and passed through a typical mild attack of enteric fever. He was discharged early in January, 1905, to a convalescent home, and returned to school on February 7. On the day previous to this I had seen him, and found him then unusually well. On February 13 he played a game of football, contrary to orders, and felt rather ill that evening. In consequence he was brought to my dispensary on the following day, and was able to walk the distance to it of about a mile. On arrival he looked very ill, his pulse was feeble and frequent, and he had a slight cough. He was at once admitted, and examination revealed the presence of a slight pericardial rub over the base of the heart, in addition to the old systolic murmur. The pulse rate was 112 per minute. A few moist *râles* were also heard over the base of both lungs; respirations 48 per minute; temperature 100° F.; urine normal. The patient remained quite easy and without complaining until 9 p.m. on that evening, at which hour his cough began to become more troublesome and he began to expectorate a frothy pinkish white fluid. During the next few hours his distress increased, and the expectoration became much more profuse, so that I was sent for about 12 30 a.m. On my arrival half an hour later I found the boy sitting up in bed, slightly cyanosed, and breathing 60 to the minute, while a fluid similar to that described above was literally pouring out of his mouth. The pulse was fairly good, 130 per minute, and the boy was able to answer a few questions addressed to him. Examination of his chest revealed the presence of loud moist *râles* all over both sides, but there was no dulness to be detected. The heart was beating strongly, and the pericardial murmur could not be heard. Immediate and powerful stimulation with strychnin, digitalin, and, later, alcohol was employed, but all means proved useless, and about 5 a.m. the patient died.

Post-mortem.—A complete autopsy was performed, and the following points of interest were noted. The lungs were very voluminous, and did not fall away from the front of the chest on opening the thorax. The pleural surface appeared red and slightly dulled, and microscopical examination revealed a very early stage of universal pleuritis. On cutting into the lungs a

large quantity of typical blood-stained oedema fluid poured out, and a similar frothy fluid was found within the trachea and bronchi. About an ounce of turbid fluid was present in the pericardial cavity, and a little fresh fibrinous deposit on the anterior aspect of the heart. Fresh vegetations were found on the edges of the mitral and aortic valves. The myocardium was microscopically normal.

CASE II.—This case was, if anything, more rapid in its onset and course than Case I. The patient, a girl, aged eleven, was admitted to hospital on April 4, 1905, complaining of pain in the chest and slight cough. The only history obtainable was that the child had had acute rheumatism on two previous occasions, the first time five years previously, and that she had suffered more or less from her heart since that time. On examination after admission the typical signs of pericarditis with considerable effusion were found, and a double mitral murmur was detected. The lungs were normal in every way. There was slight albuminuria, and the chlorides were almost completely absent from the urine. Pulse, 132; respiration, 40; temperature, 101° F. During the next week the effusion began to diminish rapidly, and by April 12 had completely disappeared. The child at this date felt perfectly well, and could only with difficulty be kept quiet in bed. On the next morning some slight pain in the chest was complained of, but careful examination revealed nothing further than the double mitral murmur. The pulse, which on the previous day numbered 90, was now, however, 120 to the minute, lungs normal, urine free from albumen, chlorides still almost absent. The child remained fairly easy until 10 30 p.m. that night, and then quite suddenly began to cough. The house surgeon, Dr. Hallows, examined her shortly afterwards, and found that she was coughing up enormous quantities of frothy fluid, and that loud moist *râles* were audible all over both lungs. He gave strychnin, digitalin and ether injections during the next couple of hours, but as these had no effect, and as the symptoms were increasing, I was sent for about 1 a.m. On my arrival, however, the child was dead, in less than three hours from the onset of the first symptoms. Dr. Hallows, who had seen Case I., described above, informs me that the symptoms in this case were identical with those in Case I., and that during the last half hour of life the fluid was pouring in almost a con-

tinuous stream out of the mouth. No autopsy could be obtained, but such, I think, was unnecessary, as far as diagnosis was concerned.

In reporting these cases I do not wish to maintain that they are rare, but rather to impress the importance of being aware of the possibility of such an occurrence, and of being prepared to employ at the earliest possible moment free stimulation. It is not likely, indeed, that in such acute cases as those described anything would be of avail, but at any rate the gravity should be at once recognised and treatment not delayed. As already pointed out, the recognition accorded to the condition is but scanty, and about the best description is that given by Osler^a in the following words:—"The symptoms are often only an aggravation of those already existing, and are due to the primary disease, whether cardiac, renal, or general. There are usually increasing dyspnœa and cough, and on examination there may be defective resonance and large liquid *râles* at the bases. There are cases in which the œdema comes on with great suddenness, and in chronic Bright's disease it may prove rapidly fatal." West^b also devotes a paragraph to the "acute œdema," but hardly seems to insist sufficiently upon its possible gravity. On the other hand, no reference at all is made to it in Clifford Allbutt's System unless the condition be regarded as identical with the "active congestion of the lungs" of some authors. I am unable to find any reference pointing to any special connection between acute pericarditis and acute pulmonary œdema. Cheadle,^c indeed, writing of the acute rheumatism of children, states that "occasionally endocarditis and pericarditis together with myocarditis run an acute course; delirium supervenes, respiratory distress becomes great;" but this is obviously not identical with the cases I describe, nor can Sturges^d "acute carditis" be regarded as identical with it. Possibly the condition may be included under the "acute

^a Practice of Medicine. Page 636.

^b Samuel West. Diseases of the Organs of Respiration. Page 243.

^c Cheadle. Clifford Allbutt's System of Medicine. Vol. III., page 45.

^d Sturges. Lumleian Lectures. *Lancet*. 1894. Vol. I.

cardiac failure " recognised by all writers as a possibility in pericarditis, but if so the term "cardiac failure " is being stretched to include a condition which does not present the usual symptoms of a cardiac death. In both my cases the symptoms appeared to be primarily pulmonary, and the absence of either extreme cyanosis or dilatation of veins pointed in the same direction; while the first autopsy confirmed this view, as it showed (1) an early stage of acute universal pleuritis; (2) a healthy myocardium; (3) no extreme distension of the right side of the heart. Again, the only condition that I have seen at all comparable was a case of albuminous expectoration following the removal of a large pleural effusion. In such a case it will be admitted that the condition is primarily pulmonary, and yet the symptoms are almost identical except that they are as a rule unilateral.

III. STAPHYLOCOCCIC PNEUMONIA SECONDARY TO PYELO-NEPHRITIS.

The following case came under my care in the Royal City of Dublin Hospital in February of this year, and is, I think, worthy of brief record, not so much from anything unusual in the symptoms presented as from the unusual cause of those symptoms :—

B. H., a charwoman, aged forty-two, was admitted to hospital complaining of slight cough and of pain in the abdomen. She stated that she had been quite well up to two days previously, when she had suddenly got a severe shivering fit, a pain in her left side, and vomiting. The pain was so severe as to cause her to go to bed, and to remain there until her friends had her removed to hospital. At first located in the left side of the chest, it had soon moved to the upper part of the abdomen, and was especially severe on drawing a deep breath. She had had no other illnesses since childhood, and had always enjoyed good health. She was unmarried. On admission she was seen by the house physician, who found the abdominal wall rather rigid and the abdomen somewhat distended. There was some cough, but no expectoration. The temperature was 104.8° F., the pulse rate 126, and the respirations 40 to the minute. There was some diarrhoea, the

bowels moving three times in the few hours subsequent to admission, but no other symptoms of importance. Towards night-time the abdominal pain became very severe, the abdominal wall very rigid, and the patient began to vomit. In consequence, I was sent for about midnight to see if any immediate treatment was necessary. On arrival I found the patient lying on her back, with legs drawn up, and breathing rather fast and shallow. The abdomen was somewhat distended, and the muscles in the supra-umbilical region were rigid; but although the patient complained of great pain in the upper part of the abdomen, this pain was relieved instead of being increased by pressure. Nothing else was noticed in the examination of the abdomen and front of the chest, but at the back I was able to detect without difficulty some crepitus at the base of the left lung, and in consequence came to the conclusion that we were dealing with a case of lobar pneumonia and diaphragmatic pleurisy, with referred abdominal pain. The topical application of poultices and a small hypodermic of morphin soon gave relief, and on the next day the patient expressed herself as feeling much better as far as the pain was concerned, but looked very ill, and was obviously weak.

The diagnosis of the previous night seemed now to be confirmed, as a small area of dulness was found at the base of the left lung, over which both tubular breathing and crepitus could be heard. Some rhonchus also was present over the base of the right lung, and generally over the left side. The temperature had fallen to 102° F., the pulse to 128, and the respiration to 34. The abdomen was still somewhat distended and tympanitic, but nothing abnormal could be detected on examining it except some tenderness on deep pressure just above the symphysis pubis. Micturition was more frequent than normal, and on examining the urine it was found to be alkaline in reaction, and to contain a small quantity of pus and mucus, with triple phosphate crystals and epithelial cells. After filtration the test for chlorides showed these to be almost entirely absent. A culture made from the urine gave an almost pure culture of *Staphylococcus aureus*. The conclusion that cystitis was present in addition to the lobar pneumonia was easily made, but the patient was too weak to allow of cystoscopic examination. The condition was treated by small doses of morphin internally and by washing out the bladder. During the next few days further symptoms of pneumonia developed, and on the fourth day after admission the case

was shown to the class as a typical example of fibrinous lobar pneumonia. The more important symptoms and signs pointing to this diagnosis were as follows :—(1) Facial herpes, on the upper lip of the left side ; (2) rusty viscid sputum ; (3) absence of chlorides from the urine ; (4) history of sudden onset of disease with a rigor ; (5) the presence of dulness over about half of the lower lobe of the left lung, with tubular breathing and crepitus ; (6) the pulse respiration ratio—the pulse-rate being 140 to the minute and the respirations from 46 to 50. To my surprise, however, I was unable to find any pneumococci in the sputum by either immediate staining or by culture, and instead, on several occasions, obtained a pure culture of *Staphylococcus aureus*. The pus in the urine still persisted, but the frequency of micturition diminished. The temperature remained between 102° and 100° F. till the ninth day of sickness, when, instead of a crisis occurring, it began to reach a higher level, and usually attained 103° F. at least once in the twenty-four hours during the remainder of the sickness, and never sinking lower than 101° F. The patient's strength rapidly failed in spite of all treatment, and she died on the seventeenth day after the initial rigor. During the last four days of her life the sputum became much less viscid, and assumed a muco-purulent character. Coincident with this change, the tubular breathing over the left lung became less pronounced, and the râles louder and bigger. The vomiting which was present at first had ceased a couple of days after admission, and the pain in the side and abdomen had completely disappeared. There was mild diarrhoea throughout the entire illness, but apart from abnormal fluidity nothing special was noticeable in the evacuations.

At the *post-mortem* examination the following was found :—*Abdominal Organs*.—These were all normal, with the exception of the bladder, left ureter, and left kidney. The bladder showed typical acute cystitis, the left ureter was distended and inflamed, and the left kidney showed pyelo-nephritis. It was considerably enlarged, and in addition to containing pus in the pelvis of the ureter contained numerous small closed abscesses dotted throughout its entire substance. A growth made from these abscesses presented a pure culture of *Staphylococcus aureus*.

Thoracic Organs.—The right lung showed mild bronchitis and a little hypostatic congestion at the base. The left lung presented at its base the typical signs of a septic broncho-pneumonia.

Although the greater part of the lower lobe was solid, the consolidation was not uniform, and here and there small abscesses were found. From these abscesses also a pure culture of *Staphylococcus aureus* was obtained. Nothing else of importance was noted.

Remarks.—The point of greatest interest to me in this case, and my reason for bringing forward the case, is because the symptoms of acute lobar pneumonia, a disease usually caused by the *Diplococcus pneumoniae*, were here presented in a case of septic pneumonia caused by the *Staphylococcus pyogenes aureus*. The onset, the absence of chlorides, the herpes, and the condition of the sputum, were all absolutely typical, to say nothing of the physical signs in the chest itself. Such a group of symptoms is, of course, by no means limited to cases of lobar pneumonia caused by Fränkels' diplococcus. They are met with also in acute tubercular lobar pneumonia and in pneumonia caused by the typhoid bacillus, but I have never before met with them or heard of them occurring in broncho-pneumonia even in the acute primary broncho-pneumonia of children. As regards the origin of the disease in the lung in this case, it seems reasonable to assume that it spread from the kidney and through the diaphragm, and to this fact we may probably attribute the abdominal pain, which was such a prominent feature at the commencement of the attack.

ART. XVIII.—*Alcohol and Mental Disease.*^a By W. R. DAWSON, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas, Dublin.

A FORMER distinguished fellow of the Royal Academy of Medicine used to lay it down as an aphorism that "accurate knowledge destroys conversation." If this applies, as it certainly does, to set discussions as well, there is no probability

^a Presidential Address read at the opening meeting of the Section of State Medicine, Royal Academy of Medicine in Ireland, February 14th, 1908. Slightly modified.

that the subject of alcoholism will fail to afford fruitful opportunities for debate for a long time to come, inasmuch as one of its most marked characteristics is uncertainty and insufficiency of data—a fact which in no way militates against a tendency to very positive dogmatism. This uncertainty is apparent even in the pharmacology of the drug—for instance, it is not yet universally admitted whether it should rank as a food or not, and even the physiological work of Kraepelin, perhaps the most thorough and scientific research which has been yet carried out in this connection, may not improbably have to be reconsidered in some particulars. And when we come to statistics the difficulty of arriving at any well-grounded conclusion rapidly increases. The difficulty referred to is partly no doubt due to the fact that very few bring to the study of the question an absolutely unbiased mind, the influence of a wide-spread monetary interest and the desire to find logical grounds for a pleasant habit, on the one side, conspiring with an indignant intolerance on the other of an agent which undoubtedly is the occasion of enormous social evil, to obscure the scientific aspect of the question. But apart from this the huge bulk of the statistical data (which if not conspicuously accurate are at least extensive), and their varying value, are themselves obstacles; while on the physiological side some confusion has been caused by a deficient appreciation of two important considerations—viz., the influence of individual diathesis and the dissimilar effects of doses of varying magnitude. In the following remarks I shall endeavour as far as possible to deal with the subject solely from the scientific point of view.

Before going on to the proper matter in hand, which is the extent and manner of the connection between alcoholic indulgence and insanity, it may be well to say a few words concerning the physiological effect of alcohol. And first with regard to small doses. Our knowledge of the action of alcohol on the nervous functions is due chiefly to the work of Kraepelin and his pupils, which has been summarised^a somewhat as follows:—Below a minimal dose (which varies,

^a W. C. Sullivan. *Alcoholism*. P. 19 ff.

however, within wide limits in different individuals and perhaps under different circumstances), alcohol does not affect psychic processes. When a somewhat larger quantity is taken the most constant result is a stimulation of psychomotor function, rendering voluntary movements easier and quicker; and in some subjects this may be the only perceptible effect even after large doses. Ordinarily, however, this excitation is succeeded by depression; but in some instances there may be no appreciable degree of subsequent depression if the doses are small. This increased facility of muscular movement is felt by the individual as a sense of increased energy. On the other hand, alcohol acts as a depressant on sensory functions, beginning, as has been shown by Bevan Lewis,^a with loss of muscular sense (which may even be profoundly affected before the temperature and tactile senses show any impairment), and involving also the special senses—certainly sight and hearing. On the intellectual side it has been found that speed and accuracy in adding figures, in committing numbers to memory, and in the logical association of ideas, are decreased by even very moderate doses, while the subject himself believes that his mental keenness is increased, this being also the case as regards the sensory functions. Mott,^b however, states that Rivers has recently found these fatigue effects wanting when the alcohol is in small doses and “disguised.” An important point is that the sensory and intellectual depression lasts a long time except in resistant subjects, probably up to twenty-four hours, so that if the dose is repeated within that time a summation of the depressant effect is produced. The feeling of well-being is due to the dulling of disagreeable impressions, together with the stimulation of motor and secretory activity, and perhaps, it may be suggested, the flushing of the cutaneous surface and lowering of the general blood-pressure. From the above it will be evident that alcohol assists for the time coarse muscular efforts, but that its effect on the finer and more complicated co-ordinations and on intellectual work is,

^a W. Bevan Lewis. *Journal of Mental Science*. Vol. LII. 1906. P. 297.

^b F. W. Mott. *British Medical Journal*. 1907. Vol. II., p. 802.

in most persons, depressant throughout. The other effects of small doses of alcohol are less germane to the present subject, but as regards temperature it may be said that Bevan Lewis^a has found that small doses give rise to contraction of arterioles with rise of blood-pressure, and a simultaneous diminution of heat-production, so that the temperature falls; this stage being followed after a varying period by conditions exactly the opposite, except that the temperature now remains fairly constant. Lastly, the effect of small doses of alcohol on digestion seems, according to the balance of evidence, to be on the whole favourable, owing to its stimulating action on the motor and secretory functions, provided that the dose be small and properly diluted, and that it be taken along with food. Without going further into the subject, it may be broadly stated that, given a normal individual under appropriate circumstances, small doses of alcohol, properly diluted, and taken with food not too frequently, not only do no harm but do good from a physiological point of view.

With larger doses, however, matters are entirely different; but the results vary according to the modes in which the alcohol is taken, these for practical purposes being two in number—viz., more moderate doses frequently repeated and a large quantity taken occasionally. The former method is the rule when alcohol is taken to assist muscular hard work, since the shortness of the stimulation necessitates repeated doses, and this constitutes the "industrial drinking" which has been so ably treated by Dr. Sullivan in an essay which is a model of the clear thought and careful study often so conspicuously wanting in pronouncements on this subject.^b

The other mode, which we shall consider first—that, namely, of large occasional doses—is called by him "convivial drinking," and produces quite different and far less serious effects. The immediate result is, of course, drunkenness, and the study of a fit of drunkenness is interesting not only as affording, in the words of Maudsley, "an abstract and brief chronicle

^a W. Bevan Lewis. *Loc. cit.* P. 204.

^b W. C. Sullivan. *Op. cit.*

of insanity," but also as indicating the direction likely to be taken by the progressive degradations of chronic alcoholism. In both it is possible to trace the successive impairment of Hughlings Jackson's levels of nerve-structure and function in the reverse order of their development, beginning with the moral and intellectual qualities of latest acquirement, and ending, when the poisoning is pushed to a fatal issue, with failure of the merely vital functions. In drunkenness, to quote Maudsley^a again, we have "first, a brisk flow of ideas, inflamed emotions, excited talk and action, aggressive address, unusual self-confidence—a condition of stimulated energy with weakened self-control . . . ; next, as in insanity, sensory and motor troubles, incoherent ideas and conversation, and unreasoning passion which, according to the person's temperament, is expansive, quarrelsome, melancholic, or maudlin, and which may sometimes, as in insanity owing one cause, go through these stages in succession in the same individual; lastly, a state of stupidity or stupor which might be called and is essentially a temporary dementia." The temperamental variation of the symptoms above referred to is a point upon which stress must be laid. It is greatly exaggerated, and affects every stage of inebriety, when we are dealing, not with normal persons, but with those showing different degrees of the neuropathic diathesis. The facts have been well summed as follows:—"Of half-a-dozen persons to whom the same dose of alcohol was administered over the same time, one would show no result at all except, perhaps, in a little brightening of the intellect and loosening of the tongue; another would be thick of speech, reeling in gait, and confused in mind; a third would be hilarious and jovial, and would become on back-slapping and rib-punching terms with mere strangers; a fourth would become vain-glorious and boastful, a shameless braggart; a fifth would become quarrelsome; a sixth maudlin, and yet a seventh would become acutely maniacal, tearing up his clothes, smashing the furniture, and running amok."^b It might be added that some

^a H. Maudsley. *Pathology of Mind*. 1895. P. 108.

^b C. A. Mercier. *B. M. J.* 1907. Vol. II., p. 801.

cases develop a curious condition of prolonged dream-consciousness, and may while in that state commit crimes and go through complicated actions of which no memory is retained, the condition, indeed, resembling certain post-epileptic states, to which it is probably akin.^a The two last described manifestations could, of course, occur only in persons whose nervous systems were highly abnormal as the result of congenital or acquired weakness; but the remainder, except the first, also indicate a greater or less degree of susceptibility to the drug.

When alcohol is taken in smaller doses, but more continuously, the same order of degradation is observed, its degree and rapidity here also depending on the resisting power of the individual brain. At best such persons become "coarser in the grain," as they lose the altruistic developments of the higher level, and almost invariably they show a disingenuousness, a meanness, and sometimes an ill-nature which was once far from their character. Egotism and bragging are common, and later, tendencies to grosser misdeeds, more especially of a sexual character, and suicidal impulses, may show themselves. In the intellectual sphere, failure of memory for recent events is a prominent symptom. Will-power is early and progressively affected, both in the direction of action and of inhibition, and it is this last which makes the reclamation of the chronic alcoholic so difficult. As time goes on, with deeper dissolution in the intellectual and moral spheres, we have motor impairments, such as tremors beginning in the hands, loss of fine skilled movements as well as other defects of co-ordination, and reduction of actual muscular power; perverted sensations, such as flashes of light and cobwebs before the eyes, booming, whistling, buzzing, and like auditory phenomena, "pins and needles" sensations in the skin, and so on; and lastly, there are nutritional changes—faulty healing of wounds, susceptibility to the action of bacteria, obesity or emaciation, weak action of the heart or even syncope. Needless to say, the depth of the degradation and the amount of alcohol needed to

^a G. R. Wilson. *Drunkenness*. Pp. 16 and 37; and others.

produce it depend to a large extent on the individual nervous system, and also, though probably to a less degree, upon collateral circumstances such as poverty, nature of work, and the like.

It is obvious that a person affected as I have described is far from possessing a normal mind, and given a faulty diathesis and unhealthy surroundings this mental abnormality is certain sooner or later to develop into technical insanity. Mott, indeed, is inclined to think that alcohol alone is not capable of developing insanity in a person with an originally normal nervous system, but as probably no cause of insanity acts alone, this I must confess seems to me little better than a truism, and it also apparently assumes a hard-and-fast line of demarcation between the certified case in an asylum and the confirmed alcoholic wreck outside which assuredly does not exist. (Dr. Branthwaite^a has insisted more than once in his reports upon the similarity between the mental states of reformatory inebriates and asylum inmates.) There can be no doubt that a very large number of alcoholics who are either insane or on the borderline of insanity never enter the asylums at all, but sooner or later gravitate to the workhouse, probably after a larger or smaller number of residences in the gaols. Even of the actual insane all do not reach the asylums, cases of delirium tremens, and also, as Mott found in London, of Korsakoff's so-called polyneuritic psychosis, being frequently treated in general hospitals. Of all these cases no statistics are available, and, therefore, it is at present useless to attempt any complete estimate of the causal relation between alcohol and mental disease. All that can be done is to endeavour to trace the prevalence of this factor amongst the certified cases of insanity.

For this purpose we have in the first place the statistics furnished by the reports of the Lunacy Commissioners and Inspectors. The English Commissioners state^b that alcoholic excess was the assigned cause of insanity in 22.1 per

^a Report of the Inspector under the Inebriates Act for 1905, p. 13, and 1906, p. 16.

^b Sixty-first Report of the Commissioners in Lunacy. Pp. 146-7.

cent. of the male paupers and 8.9 per cent. of the female paupers forming the average admissions in England and Wales for the five years 1901-1905. A supplement to the Fifty-fourth Report of the Irish Inspectors of Lunatics asserts^a that for the ten years 1894-1903 alcohol accounted on the average for 15 per cent. of the total admissions, being thus the highest causative factor with the exception of heredity. In a calculation made from the Inspectors' annual reports for the five years 1902-6, however, the average alcoholic admissions to the Irish district asylums amount to only about 10 per cent., and in the year 1904 fell as low as 7.9 per cent. :—

Table^b showing proportion returned as due to Alcohol of cases admitted to Irish District Asylums during five years ending December 31, 1906 :—

Total Patients admitted to District Asylums			Cases of Insanity returned as due to Alcohol			Percentage of total District Asylum Admis- sions returned as due to Alcohol			
Year	M.	F.	T.	M.	F.	T.	M.	F.	T.
1902	2,156	1,791	3,947	326	88	414	15.1	4.9	10.4
1903	2,140	1,810	3,950	319	94	413	14.9	4.9	10.4
1904	2,117	1,793	3,910	235	75	310	11.1	4.1	7.9
1905	2,087	1,685	3,772	340	79	419	16.2	4.9	11.1
1906	1,936	1,588	3,524	273	64	337	14.1	4.0	9.5
Total	10,436	8,667	19,103	1,493	400	1,893	14.3	4.6	9.90

As regards the proportion of cases actually under detention, Dr. Robert Jones' authority is quoted^c for the estimate that of

^a Supplement to the Fifty-fourth Report of the Inspectors of Lunatics. P. XXI.

^b Kindly compiled at my request by my assistant, Dr. F. Seymour.

^c R. Jones. British Journal of Inebriety. July, 1904. (Quoted by Horsley & Sturge. Alcohol and the Human Body. P. 147.)

116,000 cases in the English asylums in 1904, 17,000, or nearly 15 per cent., probably owed their illness directly or indirectly to drink. Dr. Clouston's^a estimate is 15 to 20 per cent. of cases wholly or in part due to alcohol, and this certainly seems to be the consensus of ordinary opinion on the question. The accuracy of this proportion has recently, however, been called in question, and with good reason. Dr. Mott has analysed^b the statistical returns of eight London County Asylums for fourteen years, and finds the most extraordinary differences between the numbers of alcoholic cases not only in the different asylums for one year, but in the same asylums for different years, a difference which amounts to as much as 11.2 per cent. and 25.6 per cent. in two asylums in one year, and 9.5 per cent. and 29.3 per cent. in the same asylum in different years. I have just referred to the differences in the Irish asylum returns for the last five years, the proportion varying from 7.9 to 11.1 per cent. These discrepancies can only be due to the operation of the personal equation. Every individual differs in his estimate of what constitutes alcoholic insanity, what constitutes intemperance, and what is the relative weight to be ascribed to the different causal factors in any particular case, so that it seems quite hopeless to secure statistical uniformity. Furthermore, there is much difficulty in ascertaining the facts concerning the previous history of the insane. One is dependent on the accuracy of relatives, who are certain to seize upon an outstanding fact like intemperance which may thus overshadow and obscure less prominent but more real causes of insanity. This is the more likely to happen since intemperance is commonly regarded as a venial failing, and as one moreover which affects the individual only and does not imply any hereditary taint in the family. Another source of fallacy of great importance is the difficulty which exists in distinguishing cause from effect, a point upon which stress is laid in the Supplement to the Report of the Irish Inspectors referred to above. A craving for alcohol is a very common early symptom of insanity,

^a T. S. Clouston. *Textbook of Mental Diseases.*

^b F. W. Mott. *Archives of Neurology.* Vol. III. P. 430 ff.

when a patient feels depressed and weak and "all wrong;" and as no signs of the approaching mental storm appreciable by ordinary folk may have been present prior to a few drunken bouts, what more natural than that these should be considered the cause of the illness—which, indeed, they may possibly have precipitated, as the effect of alcohol upon an already morbid brain-tissue would be likely to be unduly strong? In this respect, as in others, there seem, therefore, to be at present almost insuperable difficulties in the way of accuracy; and it is clear that the causes of fallacy are such as would operate in the direction of unduly heightening our estimate of the influence of alcohol. That even the undoubted prevalence of an antecedent does not establish a *propter hoc* is, moreover, forcibly brought out by the fact mentioned by Sullivan,^a that in the inquiry conducted by the American Committee of Fifty, and also in one by the Massachusetts Labour Bureau, it was found that total abstinence was a much more frequent forerunner of insanity than intemperance!

Two other considerations tend in the same direction. It has been conclusively shown by Sullivan^b that the regional distribution of insanity does not correspond very closely with either that of alcoholism or that of drunkenness. "Thus Lancashire, Warwick, and Cheshire, which rank very high in the scale of alcoholism, and the mining counties"—such as Durham—"where drunkenness is most rife—are alike in showing very low rates of insanity," the divergence being greater in the case of the latter than of the former. This is also brought out by the English Commissioners,^c in their Fifty-ninth Annual Report, in which maps are inserted showing the regional prevalence of insanity and drunkenness in England and Wales. These observations have been supplemented by Bevan Lewis,^d who found that agricultural communities, which are the least inebriate, have at the same time the highest ratio of pauperism and insanity, while maritime,

^a *Op. cit.* P. 178.

^b *Op. cit.* Pp. 179, 180, &c.

^c Fifty-ninth Report of the Commissioners in Lunacy. Pp. 4 and 14.

^d *Loc. cit.* P. 209 ff.

mining, and manufacturing communities, which are the most inebriate, have the lowest pauper and insane ratios. From all these considerations it becomes clear that in this country "the proportion of cases of certified insanity in which alcoholism is the essential cause of the disease" is considerably smaller than the official statistics would seem to show, and Sullivan considers that it may possibly be something under 10 per cent. In this he is supported by Mott, while Professor Hurd, of Baltimore,^a recently stated that as the result of an inquiry made by him some years ago in a large institution it was found that alcohol could be assigned as a cause only in between 5 and 10 per cent. of the cases. It may be pointed out that these figures are in agreement with the Irish official statistics for the last five years.

To prevent misapprehension, however, it is well to insist again on the fact that these statements refer only to cases of certified insanity, which in all probability constitute the smaller part of the mental disease due to alcohol. "Cases of delirium tremens, for instance, are treated in hospitals or other institutions; alcoholic demented drift very generally into the vagrant class or into the floating population of the prisons and workhouses" (Sullivan). Dr. Branthwaite states^b that upwards of 62 per cent. of the persons committed to reformatories (for inebriates) are found to be insane or defective in varying degree; and even if the majority of these are persons whose alcoholism is a symptom and not a cause, such a proportion points to the probability of large numbers of alcoholic insane outside of asylums. Furthermore, the above figures take no account of the numerous cases in which alcohol, though not the essential, was a more or less important contributory cause; and that it is such is certain from the fact that persons suffering from any degree of hereditary nervous disability are very susceptible to the action of alcohol, even in small doses. Dr. Branthwaite, for instance, gives it as his experience^c that a marked intolerance of alcohol exists in

^a H. M. Hurd. B. M. J. 1907. Vol. II. P. 802.

^b Report of the Inspector under the Inebriates Act for 1905. P. 9.

^c *Loc. cit.*

the defective inmates of inebriate reformatories, "very small quantities of drink, no more than is taken daily without apparent physiological effect by an ordinary individual, being sufficient to cause disorderly and violent behaviour," and even thinks that "intolerance to the exciting effects of small quantities of alcohol may be considered a fairly certain sign of impaired mental equilibrium." Mott^a states that in the histories of patients suffering from insanity as the result of intemperance he frequently finds "potential insanity, chronic alcoholism in one or both parents, inherent instability in the form of neuropathies, imbecility, criminal degeneracy, epilepsy, and intolerance of alcohol as manifested by previous admissions, when they were termed recurrent mania, recurrent melancholia, sometimes head-injury, brain disease, and not infrequently incipient general paralysis." He divides the asylum cases into two classes—one, the larger, composed of persons with a *locus minoris resistentiæ* in the nervous system, producing intolerance to alcohol; and a second "in which chronic alcoholism, usually in conjunction with some other factor such as syphilis, tuberculosis, microbial toxæmia, arterio-sclerosis, head-injury, or organic brain-disease, induces sooner or later delirium tremens, polyneuritic psychosis, or alcoholic hallucinosis." Lastly, not unnecessarily to labour the point, Sullivan^b ranges the predisposing brain-disorders in the following order of approximate numerical importance—viz., congenital defect, usually connected with an insane or alcoholic parentage; epilepsy; injuries to the head; antecedent insanity; and, in a lesser degree, syphilis and certain other infectious diseases.

In connection with this part of the subject, a few words may be said here as to the effects of parental alcoholism; and first it is well to point out definitely that the doctrines of Weismann as to the intransmissibility of acquired characters has nothing to do with the question, because the effects of parental alcoholism are no transmitted characters, but the expression of the deleterious action of the alcohol, directly

^a F. W. Mott. B. M. J. 1907. Vol. II. p. 798.

^b *Op. cit.* P. 42.

and indirectly, upon the germs from which the offspring is developed. That poisons circulating in the blood of the parents causes them to produce abnormal offspring has been shown experimentally in dogs and fowl, and the case as regards human beings is quite as clear, the nervous effects varying in degree from slight mental instability to the deepest idiocy. Thus in one series of observations parental alcoholism was found in the father in 471 cases, in the mother in 84, and in both in 65 out of 1,000, while in another series it was present in 46.5 per cent. of 150 idiots and imbeciles. No doubt in some of these cases the alcoholism and the idiocy were alike indications of a transmitted neuropathy, but such statistics at all events tend to show the direction of alcoholic influence, and there are other facts not open to this objection, such as Galton's case of a man who, after begetting several normal children, became a drunkard and had imbecile offspring, and the case of a woman who had five sickly children by a drunken husband, and then in a second marriage with a healthy man bore normal and vigorous children. Again it was found that in 10 sober families, out of 61 children 50 survived infancy, and were normal, whereas in 10 where one or both parents were alcoholic, out of 56 children only 9 surviving infancy were normal. With these striking figures, which are quoted by Sullivan,^a I shall leave this part of the subject.

As regards the form of administration of the alcohol, we need only say that chronic intoxication, not necessarily chronic drunkenness, produces an infinitely worse effect upon the nervous system than occasional bouts of severer intoxication, and that it is probable that worse results are due to impure spirits than to the better class of alcoholic drinks containing mainly ethyl alcohol.

Into the forms of insanity produced by alcohol I do not propose to go at any length. Some of them differ in no essential particular from insanity due to other causes, but in others certain symptoms are present which of themselves would suggest alcohol, notably a tendency to impulsive action,

^a *Op. cit.* P. 187 ff.

a suspicious habit of mind passing into delusion, and, especially in the more acute forms, the combination of mental confusion with hallucination which is more or less characteristic of toxic states in general. A very marked peculiarity of the chronic cases is the loss of memory for recent events, which, however, is shared with senile dementia. Alcoholics, however, have a most characteristic habit of supplying the place of memory by relating purely fictitious occurrences in good faith, and with a full belief in them, a peculiarity to which has been assigned the barbarous name "confabulation."

The forms of insanity of most purely alcoholic origin are, as has been pointed out by Mott, delirium tremens, Korsakoff's psychosis, and hallucinatory—confusional insanity, to which might be added some of the lesser degrees of alcoholic dementia. All these may occur in persons of sound nervous heredity, but it is exceedingly doubtful whether even in them alcohol is the sole cause, as it may be assisted, here as in other forms, by secondary infections from the digestive system due to the lesions produced by the drug in the mucous membrane. The first of these, delirium tremens, is really on the mental side an exceedingly acute condition of hallucinatory confusion, the symptoms of which are so well known that they need not detain us further. It is more commonly met with in the male sex, whereas Korsakoff's psychosis is more prevalent in females. The latter is supposed to be associated with polyneuritis, but is said to occur in certain intoxications without it, and may be due to other causes than alcohol. It is somewhat like a more prolonged and less acute delirium tremens, spread over months instead of days, and is characterised by confusion and restlessness, with visual hallucinations, and loss of memory especially for time, combined with the above-mentioned tendency to fabricate occurrences, and emotionally with anxiety followed by irritability. It seems somewhat doubtful whether the polyneuritis has really anything to do with the psychosis; and if not it may simply be taken as a variety of hallucinatory confusion, which shows something of the same symptoms without the neuritis, and perhaps with a greater development of hallucination. The

dementia is much the same in character as that in the neuropathic cases.

In persons whose nervous system is abnormal, whether owing to congenital defect or acquired impairment, alcohol produces a very strong effect characterised by "a marked predominance of those symptoms that are due to interference with the higher mental functions, while the affection of the lower brain centres and of the spinal cord is relatively inappreciable" (Sullivan). And here we may note that the comparative immunity of the lower nervous centres is not the only peculiarity of the kind, as the curious fact has been noticed by Conolly Norman, Mott, White, and others that alcoholic cirrhosis of the liver in any gross form is one of the rarest of occurrences in asylum *post-mortem* rooms, a circumstance which may be partly explained, as Mott says, by the theory that the predisposed nerve-tissues go under before there has been time for the other and sturdier structures to be affected. Perhaps the most markedly degenerative of the alcoholic psychoses is *delirium ebriosum* or *mania a potu*, a furious condition of wild maniacal excitement occurring chiefly in young persons after moderate doses of liquor, and far outlasting the immediate effects of the drug, its peculiarity, in addition to the violence, being the subsequent total oblivion of all that occurred. The resemblance to certain epileptic states is obvious, and there is a similar resemblance in a peculiar trance condition alluded to before, which may take origin similarly to the mania, but without excitement. Less uncommon is the chronic alcoholic insanity, which may take the form of melancholia with morbid suspicions and fears, hallucinations now generally of hearing, and delusions usually of suspicion or persecution, and often connected with the digestive organs; these may be so prominent that the condition is sometimes described as alcoholic paranoia. In other cases there may be more excitement, and the delusions may take a more cheerful tone, such forms being designated alcoholic mania, and somewhat resembling general paralysis. But the characteristic alcoholic symptoms are usually present in all to a greater or less degree. In the

alcoholic dementia, as indeed in the other more chronic forms of alcoholic psychosis which imperceptibly merge into the dementia, the mental symptoms are due to permanent degeneration of structure, not directly to alcohol, and somewhat resemble, as indeed do the pathological findings, what is met with in senile dementia. The marked symptom is, of course, loss of all recent memory, with the usual fabrication, general mental and bodily weakness, delusions, and hallucinations, the latter in part due to reduction and perversion of sensation. In some cases the delusions are grandiose, and the condition may bear a resemblance to general paralysis. Last we have a condition, much rarer than is supposed, of the recurring crave for alcohol which is known as dipsomania, which in its true form is an intensely neuropathic disease. After long periods of sobriety the victims are seized with misery and restlessness and an uncontrollable desire for alcohol, which being yielded to leaves them prostrate in mind and body for a time, after which they return to their normal state until another outbreak occurs. These individuals are so different in their two conditions as to suggest a resemblance to cases of dual personality.

The above is an attempt to indicate some of the leading types of alcoholic insanity, but it must be understood that they are only types, and that all sorts of variations and transitions may be met with, while in some cases the special alcoholic indications may be absent.

Little need be said here as to the pathology of alcoholism. The morbid appearances in the brain are slight or absent, except in advanced cases, in which the membranes show thickening, the vessels of the cortex are degenerated, and there are other evidences of slow inflammatory action. The only characteristic change in the nerve cells of the brain is chromatolysis of the large pyramids, from which it follows that the area round the fissure of Rolando is the part most affected.

In conclusion, a few words must be said as to treatment. One of the most peculiar characters of alcoholic cases of insanity

is their eminent curability when the patients are forced to abstain from alcohol. Even the hopelessly demented cases usually show some improvement, and cases apparently hopeless often recover rapidly. It follows that the first essential is total abstinence, which means that in 99 per cent. of the cases the treatment must be carried out in an institution. So long as a patient is insane this is an easy matter, but in most cases the return to sanity is so rapid that sufficient time is not allowed for the eradication of the drink habit,^a for which a minimum of two years has been found necessary at the Ennis Reformatory. It would, therefore, be highly desirable that cases of admitted and well-known inebriety should be legally detainable against their will after they have become technically sane, and that in the case of the district asylums such cases should, on recovery, be transferred for a time to inebriate reformatories. Where there is a real desire to reform it is probable that a much shorter detention would suffice, and it might possibly be assisted by drug action or other treatment. Personally I have for some years past always submitted curable alcoholics to a course of atropin treatment, and I certainly found that at least it enabled alcohol to be discontinued with little discomfort to the patient, while out of five cases in which a sufficient length of time has elapsed, three have remained sober for two years and over. It is not quite clear to me, however, whether suggestion does not play a large part in such cures, and I think it is rather a pity that the more powerful suggestion of hypnotism has fallen into such general disuse. I have had no personal experience of it in this connection, but cures were reported when the procedure was revived fifteen or sixteen years ago, and it seems quite likely that we are neglecting a useful means of treatment. Of suggestion in another form, that of moral treatment, use is always being made, and, given time enough, there is no doubt as to its utility in re-awakening the moral sense, re-educating the will, and giving the patient a fresh start. But for the man so started afresh, as for all

^a M. J. S. Gibbons, C.B. Report presented to the Congrès Pénitentiaire International de Budapest. 1905. P. 7.

neuropaths, whether their disability be inherited or acquired, complete abstention from alcoholic stimulants affords the one hope of continued well-being.

ART. XIX.—*Duodenal Ulcer: Its Diagnosis and Treatment, with illustrative Cases.*^a By A. B. MITCHELL, M.B., F.R.C.S.I.; Surgeon to the Royal Victoria Hospital, Belfast.

DUODENAL ULCER has been regarded as a rare disease. The experience of operating surgeons during the past ten years proves that it is a common disease instead of a rare one, and that its symptoms are clearly defined instead of obscure.

Statistics based entirely on *post-mortem* records have proved totally unreliable when checked by careful observation on the actual living disease.

Medical text-books have been content to include gastric and duodenal ulcer under a common heading, apparently regarding it as unnecessary or impossible to arrive at an accurate diagnosis of duodenal ulcer. Thus, in the sixth edition of "*Osler's Medicine*," published in 1905, we find the following:—"Can gastric and duodenal ulcer be distinguished clinically? In the great majority of cases they cannot be separated during life, as the symptoms produced are identical."

This emphatic pronouncement, coming from so eminent an authority as Prof. Osler, may be taken as representative of the general view of the profession so recently as three years ago.

My object in bringing this communication before you to-night is to emphasise the views expressed in recent papers by Moynihan, Mayo Robson, W. J. Mayo, and other leading abdominal surgeons. That duodenal ulcer is really a common affection is now quite certain. Thus, up till the end of 1905, Moynihan had operated on 114 cases. That it is not rare in

^a Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, April 3, 1908.

my own immediate neighbourhood is evident by the tables I have submitted, which show that during the past year I have met with nineteen cases in which the diagnosis was verified by actual inspection of the viscera. True, this is only a small number, but its significance is great when we consider that patients are not over eager to have their abdomens opened, and their medical attendants naturally hesitate to recommend extreme measures unless they are sure of their diagnosis and reasonably certain of the result.

If, under such circumstances, even nineteen cases have been operated on by one surgeon in a single year, I think we may fairly assume that we are surrounded by a very large number of chronic invalids, the victims of duodenal ulcer or its results.

This affection having been proved to be a common one, we have next to consider—

(1) Is it necessary or important to be able to diagnosticate it with accuracy?

(2) Can such diagnosis be made with reasonable certainty?

The answer to both questions is in the affirmative. The importance of a definite diagnosis is clear from the following facts:—

(1) Duodenal ulcer is a much more serious affection than gastric ulcer. Thus Boas, in his classic work on "Diseases of the Intestines," puts the perforation rate at 69 per cent. If this figure is anything like correct the victim of a duodenal ulcer stands constantly on the brink of a precipice. That my list should include no less than ten perforations, one patient having perforated twice within seven months, shows conclusively that this is a very real and frequent catastrophe. I have seen at least four additional cases of perforative peritonitis during the past three years in which the previous history when carefully elicited made it practically certain that duodenal ulcer had perforated; but either operation was refused or the patient was moribund, and died within a few hours after I saw him, it being evidently useless to interfere.

(3) Hæmorrhage is liable to be much more profuse and dangerous than in gastric ulcer.

(4) Permanent cure by medical means, though possible, is much less likely than in gastric ulcer.

Lastly, in view of our present knowledge a diagnosis of duodenal ulcer makes it imperative to consider carefully the question of surgical intervention.

Can duodenal ulcer be recognised clinically? In the great majority of instances this can be done with as great a degree of accuracy as in the case of gastric ulcer, gall stones, or even appendicitis.

We must in the first instance get rid of preconceived notions in reference to the question of age. It is quite true that duodenal ulcer is commoner, as stated in our text-books, during the third and fourth decades of life, but a reference to my list of cases shows clearly that it must be quite common in early life, and most of the cases which I have operated on at later periods prove, on careful analysis, to have suffered for many years, so that the disease clearly existed in early adult life.

The second point of importance is to recognise that gastric and duodenal ulcers are frequently combined. Moynihan^a says that in 40 per cent. of cases both forms exist.

If we are justified in regarding hyperacidity, and the corrosive action of acid chyme on the duodenal mucous membrane, as an active, existing cause of duodenal ulcer, it is clear that the excess of free HCl, so frequently associated with the presence of an ulcer in the stomach, is extremely likely to be productive of a secondary ulcer in the duodenum.

It is therefore probable that accumulated surgical experience will only serve to emphasise the views expressed by Moynihan and W. J. Mayo as to the frequency with which the two ulcers are combined, though my own series does not support this view, only two patients showing unequivocal evidence of double ulcer.

I know of no satisfactory explanation of the well-established fact that duodenal ulcer is much more frequent in men than in women. My list shows a ratio of twenty-three in men to four in women. Its suggested association with alcoholism

^a *Practitioner*. June, 1907.

is not borne out by my patients, all of whom, with one exception, were practically total abstainers. It is interesting and instructive to note that several of my patients were men of exceptional physical development, one of whom had on several occasions represented his country in International Rugby Football Matches, and whose appearance made it almost impossible to believe that he was the victim of a serious internal complaint. He had consulted a leading London physician, and, being a medical man, had himself raised the question of duodenal ulcer, but the suggestion was decisively negatived.

Case V. in my list of perforations shows that it is possible for a typical *chronic* indurated ulcer to exist without symptoms, though this must, I think, be very rare. This patient steadfastly maintained, in face of the strictest cross-examination, that up to the moment of perforation on July 21, 1907, he never had any discomfort whatsoever. He was shown by me at a meeting of the Ulster Medical Society on March 5, 1908, when he stated that he had remained in excellent health since the operation, seven and a half months previously. Four days later, however, he again perforated without any premonitory symptom. He had been drinking freely, and after operation developed some incipient signs of delirium tremens. On this occasion gastro-jejunostomy was combined with closure of the perforation with successful result. His case, therefore, appears in both my lists.

Acknowledging that duodenal ulcer may exist without symptoms, and that in a certain proportion of cases the symptoms may be masked by co-existing gastric ulcer, we arrive at the question—What are the characteristic symptoms indicative of duodenal ulcer? They are—

- (1) Pain of a special type.
- (2) A feeling of fulness and discomfort after food, with eructations of gas, and generally with some hyperacidity.
- (3) Local tenderness over an area just above and to the right of the umbilicus.
- (4) Hæmatemesis and melæna.
- (5) Some degree of *dilatation of the stomach* exists, in most

cases, from an early stage of the affection. At the beginning this is probably due to pyloric spasm; an effort on the part of nature to prevent the acid contents of the stomach passing over and irritating the duodenal ulcer. Later, dilatation is the result of mechanical obstruction caused by cicatricial contraction or adhesions.

This *early dilatation* is a sign to which I attach considerable importance. In gastric ulcer, except the pylorus is itself actually involved, the tendency is rather towards a slightly contracted stomach; the sphincter instinctively relaxing at an early stage of digestion in order to permit the noxious gastric contents to escape, and thus afford some relief to the symptoms.

The pain of a duodenal ulcer is very typical. It is usually described as of a burning, gnawing character; occasionally it assumes the form of violent spasms, closely simulating gall-stone colic. It usually comes on from two to four hours after food, sometimes it awakens the sufferer from sleep. Its essential characteristic, however, is that it is promptly *relieved* by taking food, and the duration of the relief generally depends on the nature and quantity of the food taken. Patients, therefore, will frequently tell you that they carry biscuits in their pocket, and have some bread at their bedside, to which they may resort when the gnawing comes on. On this account Moynihan has aptly termed it "hunger-pain." The value of this hunger-pain is not, so far as I know, emphasised in any of our ordinary text-books. Osler makes no reference to it. Eisendrath, in his surgical diagnosis published in 1907, entirely overlooks it, which accounts for the statement—"It is almost impossible to distinguish gastric and duodenal ulcers clinically."

The explanation of the symptom is very simple. As soon as a given meal has undergone digestion the pylorus relaxes, the acid contents of the stomach are discharged into the duodenum, and coming into contact with the ulcerated surface give rise to the gnawing, burning pain. No sooner is more food taken than the pylorus closes, escape of acid chyme ceases, and the pain is relieved.

Boas, however, explains the effect of additional food by

assuming that it acts by diluting the gastric contents and reducing acidity, and this would account for the fact that a hot drink often relieves the pain.

It is interesting here to note that in 1889, when I was resident pupil in the Royal Hospital, Professor Whitla (now Sir William) insisted on my giving some of his stomach cases a piece of cheese and crust of bread in order that he might decide whether an ulcer was present in the stomach or duodenum. "If it is in the stomach," he said, "it will make the pain worse; if it is in the duodenum it will make it better." I am afraid at that date we regarded this as a rather fanciful diagnostic method. We had not, however, the benefit of a subsequent laparotomy to prove the accuracy of the test. In view of the experience gained by operating on these cases I have now come to regard this symptom, when typical in its manifestation, as almost pathognomonic.

Local tenderness has not, in my experience, been nearly so constant or well defined as I should have expected. When present, in addition to the characteristic pain, it is a valuable sign, but I do not regard its absence as of much importance. *Melana*, when present in the form of *tarry motions*, associated with indigestion, make the diagnosis of duodenal ulcer almost certain.

It is necessary, however, to see the motion and be satisfied as to its character, and to ascertain whether the patient has been taking bismuth or iron for some time previously.

Jaundice is an occasional symptom of duodenal ulcer which may render the diagnosis from gall-stones difficult or impossible.

I next wish to draw your attention to the actual pathological condition met with when we come to handle and inspect one of these ulcers. They are usually described as clean cut punched out ulcers.

The "Pathology of the Living" demonstrates a very different state of matters.

What we may expect to find when we have an opportunity of investigating such ulcers during life may be described under four heads:—

(1) Cases in which the site of the ulcer is indicated by well-

defined induration and thickening in the duodenal wall. In my experience these are decidedly the most frequent.

(2) Cases with so much inflammatory deposit that a palpable tumour-like mass is produced (Case X.)

(3) Cases without induration, but associated with evidence of localised peritonitis in the form of recent lymph or organised adhesions, or both.

(4) Cases in which the only evidence of ulceration is the presence of enlarged red, fleshy lymphatic glands in the course of the lymph stream supplied by the corresponding area of mucous membrane.

The value of such glands in localising a mucous lesion was, as far as I am aware, first emphasised by me in a communication to the Surgical Section of the Royal Academy of Medicine of Ireland, May 10, 1901, published in the *Medical Press and Circular*, June 12, 1901, where I described a case in which a chain of enlarged glands led to a tubercular ulcer at the ileo-cæcal valve, of which there was no indication on the peritoneal aspect of the bowel, and which was successfully excised.

The first of these conditions, the indurated ulcer, is an excellent example of the value of what Moynihan has so aptly termed the "Pathology of the Living." It is not met with after death; just, as we all know, the indurated edge of a chronic ulcer of the leg so well marked during life is not seen in the *post-mortem* room. It is for this reason that the accounts of gastric and duodenal ulcers founded entirely on *post-mortem* experience fail to give a true idea of the actual living disease.

The cause of this induration has been attributed by Moynihan to *chronic œdema*. I have no doubt this view is the correct one, as it satisfactorily explains—

(1) The disappearance of the thickening after death.

(2) The anæmic character of the indurated area, which may be freely clipped away without hæmorrhage.

(3) The well-known fact that a suture inserted in such tissue promptly cuts its way out, exactly as it would through a piece of cheese, which would not occur with organised fibrous tissue.

This leads me to refer to another interesting fact—namely, the rarity of *hæmorrhage* in connection with perforation. I have never seen a trace of blood in the peritoneal cavity after perforation of either a gastric or a duodenal ulcer, and this is just what we might have expected from our experience of the character of the great majority of these ulcers. For the same reason it may be taken for granted that *hæmatemesis* in gastric ulcer and *melæna* in duodenal ulcer are not nearly so common symptoms as we are usually led to believe.

Position of the Ulcer.—In twenty-five of my cases the ulcer was in the first portion of the duodenum, within one inch of the pylorus. Of these, twenty-four were on the anterior and one on the posterior surface. The two remaining ulcers were at the junction of the first and second portion.

I had, however, an opportunity of assisting Prof. Sinclair at an operation where the entire duodenum was distended to at least two or three times its normal size, owing to cicatricial contraction immediately above its junction with the jejunum.

There is another point I should like to refer to in this connection—namely, the so-called *Curling's ulcer of the duodenum*, attributed to burns. Does such a lesion really occur? Burns are amongst the commonest of all accidents. Our hospitals are never without a number of burns, both in adults and in children. How many of us have seen such a case, or symptoms even suggestive of this complication. I, personally, have never met it. All sorts of theories have been invented to explain its occurrence: none of them is satisfactory. The simplest explanation, to my mind, is that the condition where it has been found was *not* caused by the burn, but, duodenal ulcer being much commoner than is generally believed, the burn occurred in a person already the subject of such an ulcer.

Having established the facts that duodenal ulcer is a *common* disease, and a *dangerous* disease, with serious pathological consequences, and that its *diagnosis is reasonably simple*, we come finally to the question of treatment.

Is medical treatment really efficient and satisfactory? That such ulcers may heal admits of no doubt. A curious

intermittency in symptoms is, however, a constant feature of duodenal even more frequently than of gastric ulcer. Whether in such intervals cicatrization has actually taken place is not certain. However that may be, relapse of symptoms is of very frequent occurrence, and no conscientious physician is justified in declaring that he has cured a case of duodenal ulcer, because after a course of treatment the symptoms have been temporarily relieved and the patient states that he feels quite well.

Assuming that he comes back to you again, and yet again, or more likely drifts into the hands of someone else, are you justified in continuing to restrict his diet, to vary his medicine, to encourage him with sage advice, when you know, or ought to know, that his condition is dangerous, and may at any moment end in a fatal explosion?

Whatever may be said of the acute case, it is now, I think, a well-established principle that the surgical treatment of chronic and relapsing duodenal ulcer is the safest, most efficient, and most rapid method of effecting a cure. The risk of a well-considered, skilfully-executed operative procedure does not exceed 2 per cent., and should be less than 1 per cent. Permanent relief is practically certain. The patient may be allowed up at the end of a week, and out in twelve or fourteen days, provided the abdominal wound is efficiently closed with buried sutures.

It is not the purpose of this communication to discuss surgical technique. My own practice is to perform gastro-jejunostomy (posterior operation where possible), and then close, or partially close, the pylorus by a few Lembert sutures.

Appended is a list of all cases of duodenal ulcer operated on by me:—

CASES OF GASTRO-JEJUNOSTOMY FOR DUODENAL ULCER.

Seventeen cases ; seventeen recoveries.

CASE I. (September 30, 1903).—Canon H., aged fifty-four. First complained of his stomach at forty-four years. Suffered from pain, worse at night. Dilatation developed. Finally operated on September 30, 1903; revealed a cicatricial ulcer of

first portion of duodenum, with greatly dilated stomach. Posterior gastro-jejunostomy was performed. The gall-bladder was found to contain a large single gall-stone, which was removed. He made a good recovery, and is now in excellent health.

CASE II. (May 22, 1905).—James T., aged thirty-four. Admitted to hospital May 22, 1905. Had suffered from his stomach for many years. Typical hunger-pain. Operation on May 23 revealed a healthy stomach, but on first portion of duodenum was an indurated cicatrix surrounded by adhesions. Posterior gastro-jejunostomy. Uninterrupted recovery. Complete relief.

CASE III. (January 18, 1906).—James B., aged thirty. Indigestion for over ten years. Hunger-pain. Occasional vomiting, but only during the night. One severe attack of hæmatemesis and melæna. Operation on January 18, 1906, revealed an indurated ulcer on first part of duodenum, with numerous adhesions and pyloric obstruction. Posterior gastro-jejunostomy. Day after operation had a sharp attack of hæmatemesis. Recovery rapid and complete. Left hospital on eighteenth day. Wrote one year later saying he was in perfect health.

CASE IV. (April 17, 1906).—James H., aged twenty-eight. Suffered from indigestion for six to eight years. Typical hunger-pain. Had several attacks of melæna. Had been three times in hospital under medical treatment. Operation revealed an ulcer on first portion of duodenum, without induration, but with adhesions and enlargement of lymphatic glands, posterior gastro-jejunostomy. Complete recovery. Shown at post-graduate course, fifteen months later, in excellent health.

CASE V. (September 7, 1906).—Stewart H., aged twenty-one. Suffered for some years from severe hunger-pain. No vomiting. Operation on September 7, 1906. Numerous adhesions surrounded first part of duodenum, and some enlarged gland could be made out. Posterior gastro-jejunostomy gave relief to all his symptoms. He left hospital two weeks after operation in excellent health.

CASE VI. (December 9, 1906).—William L., aged sixty-two; farmer; Garvagh. Had a bad stomach for ten years; chronic invalid for four years; used stomach tube regularly for two

years. Stomach dilated. HCl present in excess. Operation December 12, 1906. Showed thickening of duodenum, involving the first inch. Gastro-jejunostomy, at which Dr. Irwin assisted, gave complete relief. This hardy old farmer was out on the tenth day, and returned home to the country on the twelfth day, bearing the long journey of sixty miles without fatigue. He continues to enjoy perfect health.

CASE VII.—R. L., aged twenty-eight; Hollywood; patient of Dr. Greenfield. Had suffered from his stomach for years, with intervals of comparative comfort. Pain was usually relieved by food. Had hæmatemesis and black stools on more than one occasion. Pain often worse at night, and sometimes so intense that he could not rest in bed, but writhed on the floor. February 14, 1907. Operation at his own house. Indurated ulcer of duodenum, involving more than one inch of first part. Recent exudation and old adhesions. Posterior gastro-jejunostomy. Complete relief. Able to be out on fourteenth day. Remains in excellent health.

CASE VIII. (August, 1907).—Dr. I. Shortly after recovery from operation for perforation began to suffer from pain and vomiting. Washed out the stomach for a time, but finally decided to have gastro-jejunostomy done. This was accordingly carried out in August, 1907. Recovery was complicated by some post-operative hæmatemesis, but was otherwise rapid and satisfactory. He is now in excellent health—"the best he has known for years."

CASE IX. (October 14, 1907).—Mr. O., aged fifty-four; patient of Dr. M'Quitty. History of chronic dyspepsia for many years; on milk diet for ten years. Pain very severe two to three hours after food, always relieved by food. He used frequently to take a drink of hot water to relieve the pain. He was a thin, anæmic, chronic hypochondriac. Operation revealed old adhesions and recent lymph around the first portion of the duodenum. Posterior gastro-jejunostomy was followed by a good recovery. He returned home nineteen days after operation; but so confirmed were his views in regard to diet that it was impossible to convince him that he should eat freely of everything.

CASE X. (October 23, 1907).—Mrs. M., aged fifty-six; a patient of Dr. Calwell. History of intermittent attacks of

indigestion for years, then a period of good stomach health, extending over some years. For past nine months had suffered from pain and vomiting, associated with rapid loss of flesh and evidence of dilated stomach. Free HCl was present, and an ill-defined "lump" could be palpated behind the right rectus. Operation on October 23, 1907, in a nursing home, revealed a tumour-like swelling, size of a walnut, involving the first inch of the duodenum. Posterior gastro-jejunostomy was followed by complete relief of all her symptoms. She rapidly put on weight, and is now in excellent health.

CASE XI. (November 8, 1907).—Henry O., aged nineteen; apprentice, H. & W. Suffered from pains in his stomach for three years. "Pain came on about two and a half hours after food and remained till he ate something." No vomiting: no hæmorrhage. Had been in hospital for three weeks in March, 1907, but without permanent relief. Operation revealed a hard indurated area, one inch long, three-quarters of an inch broad, like a small tumour, on the first portion of the duodenum, with recent inflammatory lymph on its surface. Posterior gastro-jejunostomy was followed by a rapid and complete recovery. He is now in excellent health.

CASE XII. (November 26, 1907).—Wm. N., aged thirty-six; an ex-constable R.I.C. Was admitted to hospital on September 2, 1907, with signs of dilated heart and dilated stomach. In the medical ward, under care of Dr. Calwell, his heart rapidly improved. He was then transferred to the surgical ward for gastro-jejunostomy for relief of the dilated stomach. At the operation on November 26, 1907, we found an old indurated ulcer on first portion of duodenum, with adhesions to the gall-bladder. Posterior gastro-jejunostomy was followed by relief of all his discomfort. He left my ward on December 7, twelve days after operation, feeling in excellent health.

CASE XIII. (December 4, 1907).—Robert A., aged fifty; farmer; Garvagh. Suffered for some years with typical hunger-pain, without vomiting. For past two years pain has been more constant, and vomiting frequent. Lost one and a half stone weight during past six months. Examination revealed a dilated stomach, with excess of free HCl. Operation showed the dilatation to be due to cicatricial narrowing of the duodenum, producing

a tight stricture. The stomach showed no sign of ulceration. Gastro-jejunostomy gave complete relief. He left the nursing home in two weeks, and continues quite well.

CASE XIV. (December 6, 1907).—Wm. L., aged forty-six; factory manager; patient of Dr. Howard Stevenson. Stomach trouble for six years. Intermittent attacks of pain about an hour after food, relieved by further food. No vomiting; no melaena. Operation December 6, 1907. Adhesion on anterior surface of the stomach. An indurated ulcer was found on first portion of duodenum immediately outside the pylorus. Recent inflammatory lymph covered the peritoneal surface of the ulcer. Posterior gastro-jejunostomy. Rapid and complete recovery.

CASE XV. (January 1, 1908).—Miss J., aged twenty-eight; patient of Dr. Magowan, Glenarm. Had suffered for five years from indigestion, characterised by pains, of which she gave a very indefinite account. On one occasion at least she vomited blood, and had "black motions." She was a chronic invalid. Operation displayed old adhesions and recent lymph round the first portion of duodenum, and several enlarged glands. She made a rapid recovery, and returned home in two and a half weeks, at which time she was taking ordinary food without discomfort.

CASE XVI. (January 11, 1908).—Minnie C., aged twenty-six; cook; Lisburn. Suffered from indigestion for six to eight years. Nausea, but no actual vomiting. Typical hunger-pain. In November, 1907, vomited some blood, and for two weeks passed "black motions." Never had any local tenderness. Regarding the case as duodenal ulcer. I sent her to hospital, where operation confirmed the diagnosis, displaying duodenal adhesions and well-marked induration on posterior surface of duodenum, just below the pylorus. Gastro-jejunostomy was followed by complete relief of all her symptoms. She returned home in two weeks, able to eat ordinary diet.

CASE XVII. (February 20, 1908).—Miss R., aged twenty-six; patient of Dr. M'Murtry. History of gastric ulcer for eight to nine years. Much worse during past year. On February 17, 1908, she had an attack of gastric tetany. She was removed to a nursing home. At the operation on February 20, 1908, an indurated saddle-shaped ulcer was found on lesser curvature,

about three inches from pylorus. A second ulcer was found on first portion of duodenum, which was surrounded by old and recent adhesions. Gastro-jejunostomy, followed by closure of the pylorus by a few Lembert sutures, has given most satisfactory results.

CASE XVIII. (See also Perforation Case X.)—John M'C., aged forty-four. Perforated for the second time, March 9, 1908. After closing the perforation we decided to perform an immediate gastro-jejunostomy. Owing to large amount of fat between layers of the transverse mesocolon, to omental adhesion following the first perforation, and to abnormal origin of jejunum,^a it was deemed inadvisable to attempt a posterior operation. An anterior operation, according to the method of Roux, was accordingly carried out. He developed a slight degree of delirium tremens on the third day, but otherwise his recovery was quite satisfactory.

CASE XIX.—Thomas W., aged forty-five. Ailing two years. First complained of a "roasting, burning" pain in his stomach. He was so tender at one spot over the right rectus that he could not bear to be touched. Apparently got well, then relapsed. For past six months pain very severe, commencing in epigastrium to right of middle line, radiating up over the chest and round the side. Sometimes it was relieved by food. No melena, stomach moderately dilated. Free HCl in slight excess. Operation, March 13, 1908. Ulcer at pyloric end of stomach; ulcer of duodenum just outside pylorus; first portion of duodenum surrounded by recent inflammatory exudation and old adhesions; numerous lymphatic glands enlarged. Posterior gastro-jejunostomy. Uninterrupted recovery.

CASE XX.—George M., aged thirty-five. Sent to hospital on March 13, 1908, by Dr. Blakely. Typical history. Ailing for two years, "off and on." Pain coming on several hours after.

^a In this instance there appeared to be no *third portion* of the duodenum. The *jejunum arose directly* from the *right side* of the spine. This abnormality must be very rare one. It is not referred to in any of the text books on anatomy or surgical anatomy to which I have had access. Professor Symington informs me that he has never met with it. Its presence was verified by Dr. Howard Stevenson, who assisted me at the operation, and it was demonstrated to Dr. Fielden and Dr. Boucher, who were present. A similar case was recorded by Mumford ("Annals of Surgery," January, 1906), in which death followed posterior gastro-jejunostomy.

food, and at night ; always relieved by food ; localised tenderness ; occasional vomiting ; black stools ; stomach moderately dilated. Free HCl present in excess. Diagnosis : Duodenal ulcer ; operation, March 17, 1908 ; Mr. Fullerton assisting. Indurated tumour-like mass, size of walnut, at junction of first and second portion of duodenum ; firm adhesions ; recent localised peritonitis. Omentum inflamed and adherent to transverse mesocolon in the neighbourhood of ligament of Treitz, from which it could not safely be separated. Owing to this difficulty, and to the fact that the loops of the colic vessels were very small, we performed an anterior gastro-jejunostomy by Roux's method, which I always adopt where the anterior operation is necessary. Recovery rapid, and entirely satisfactory.

CASES OF PERFORATING DUODENAL ULCER.

9 Cases ; 9 Recoveries.

CASE I. (May 15, 1904).—Mr. Wm. P., aged forty-three. Had "a bad stomach" all his life. He suffered from attacks of painful indigestion lasting three to four weeks, followed by intervals of three to six months' comparative health ; then another attack, and so on. During these attacks he never vomited ; he never had melena. Pain coming on two to three hours after food, and when at its height promptly *relieved by food*, was his most characteristic symptom. On May 15, 1904, he suddenly perforated. Operation, undertaken at his own house eleven hours later, revealed an indurated duodenal ulcer, about half an inch below the pylorus. The ulcer was enfolded and abdomen flushed out with saline and the pelvis drained. He made a good recovery, and is to-day in excellent health.

CASE II. (June 17, 1905).—James S., aged forty-nine. Suffered from indigestion for many years. Had typical hunger-pain, but rarely vomited. At 12 30 p.m. on June 17, 1905, perforation occurred. He was admitted to hospital at 6 30 same day. Operation, seven hours after perforation, revealed a hole the size of a quill pen in the first portion of the duodenum. This was situated on the posterior aspect, half an inch below the pylorus, and was surrounded by a zone of induration the size of a shilling. Perforation closed ; peritoneal cavity flushed out with about eight gallons of sterile water ; pelvic drainage. Good recovery.

CASE III. (March 4, 1907).—John W., aged thirty-two. Victim of intermittent indigestion for ten years: hyperacidity; occasional vomiting; no hæmorrhage. Perforation on March 4, 1908. Operation, eight hours later, revealed a perforation on anterior wall of duodenum half an inch from the pylorus. Pyloric end of stomach and duodenum surrounded with inflammatory exudations and adhesions. Perforation closed; pelvic drainage. Recovery complicated by bronchitis. Left hospital in good health on April 4, 1907, one month after operation.

CASE IV. (March 27, 1907).—Dr. L., aged —: a prominent athlete. Intermittent “indigestion” since boyhood; typical hunger-pain; *never* vomited; melena for first time, January, 1907. Perforation March 27, 1907. Operation, thirty-six hours later, revealed an indurated ulcer at junction of first and second portions of duodenum. Closure of perforation effected with great difficulty. Slow recovery. Required gastro-jejunostomy later on.

CASE V. (July 21, 1907).—John M.C., aged forty-three; publican, retired police constable. Never had the slightest pain or discomfort of any kind. Had been a steady drinker. Perforation at 10 p.m., July 21, 1907. Promptly sent into hospital by Dr. Stevenson. Operation, four hours later, revealed a chronic indurated ulcer on first portion of duodenum. Perforation closed; pelvic drainage; rapid recovery.

CASE VI. (July 31, 1907).—Robert A., aged thirty-eight; clerk; patient of Dr. Williamson. Had been a dyspeptic for years, symptoms indicating gastric ulcer. Perforation on July 30, 1907. Operation twelve hours later. Gastric ulcer a little above the pylorus. Indurated duodenal ulcer, which had perforated on anterior wall half an inch below the pyloric ring. Perforation closed; abdomen flushed, and with saline; pelvic drainage. Recovery.

CASE VII. (September 15, 1907).—Robert L., aged forty; Crossgar. Indigestion of the intermittent type for over ten years. “Hunger-pain” typical. Melena on several occasions. Perforation September 14, at one o’clock; operation twenty-five hours later. Perforation found on anterior surface of duodenum three quarters of an inch below pylorus; sutured with difficulty;

direct drainage and pelvic drainage. Recovery. In good health five months later.

CASE VIII. (November 15, 1907).—Robert F., aged thirty. Had suffered from intermittent attacks of indigestion for eighteen years. During these attacks pain came on about two hours after food, and was always relieved by a full meal. Occasionally he noticed something in his motions which he took to be blood. He had no vomiting. At 11 a.m. on Friday, November 15, 1907, whilst at business, he was suddenly seized with intense abdominal pain. He was sent into hospital at 11 a.m. on Sunday, 17th. He was then greatly collapsed, with a quick, feeble pulse, sub-normal temperature and general abdominal distension. Operation, which was carried out *forty-nine hours* after perforation, revealed a perforating ulcer on the anterior aspect of the duodenum about half an inch beyond the pylorus. The edges of the ulcer were, as usual, thickened and oedematous. The opening was closed by purse-string suture; the abdomen mopped out very lightly and rapidly; supra-pubic drainage employed. He was kept in sitting position with continuous rectal irrigation. He made a good recovery, but is now again complaining of indigestion, and will probably require gastro-jejunostomy.

A very interesting feature in this case was the following:—For the past three years, as a result of a severe attack of influenza, he had suffered from complete loss of smell. The day after operation he noticed that his power of smell had returned, and it soon became unusually keen.

CASE IX. (January 25, 1908).—Archie M'C., aged twenty-two. Ailing with intermittent attack of epigastric pain since nineteen years of age. Pain always came on about three hours after food, and was always *relieved by food*. The pain was confined to the epigastrium nerve radiated into the back. He never vomited, and had no eructations of gas or pyrosis.

Perforation.—On January 25, 1908, at 7 30, whilst out walking, he took sudden abdominal pain. He managed to walk home. He was sent into hospital the following night. Operation was undertaken *seventeen and a half* hours after perforation. A perforation the size of a threepenny piece was found on anterior surface of duodenum, three-quarters of an inch from the pylorus, surrounded by a zone of inflammatory induration about the size of a shilling. The perforation was closed by catgut suture,

abdomen flushed out and drained supra-pubically. He was kept in the sitting position, and continuous rectal irrigation with saline solution maintained. At the time of operation he was profoundly collapsed; pulse 140, and very feeble. He made a good recovery, which I attribute to the posture and rectal irrigation.

CASE X.—John M'C., aged forty-four. Operated on for perforation July 21, 1907. Shown at Ulster Medical Society meeting, March 5, 1908, when he declared he was in good health. Perforated on March 9, 1908. Operation four hours after perforation. Opening closed by catgut suture. Gastro-jejunostomy. Anterior Roux operation. Recovery.

CRYPTOGENETIC STREPTOCOCCUS INFECTION, WITH PERSISTENT CUTANEOUS ERUPTION, ENLARGEMENT OF THE LYMPHATIC GLANDS AND FEVER, SUGGESTING SYPHILIS.

DRS. ALFRED STENGEL, J. William White, and Joseph S. Evans report the case of a young man who suffered from the above symptoms. Repeated examinations of the blood and of an excised lymphatic gland failed to demonstrate the presence of *Spirochaeta pallida*, except in one doubtful example. Examination of the tonsils and of the blood, however, made at different times, revealed the presence of a Gram-positive coccus, oval in shape, occurring mostly in diplococcic forms, but also found in chains of four and six. Division occurred in one plane. A minute account is given of this organism. It certainly does not belong to the *Pyogenes* group, but has a suggestive correspondence with *Streptococcus equi* found by Schütz and others in epidemic coryza and glandular enlargement of horses. That cutaneous lesions are often associated with mild or severe forms of septicopyaemia and with rheumatic polyarthritis has been long known, as in so-called surgical scarlatina; and joint manifestations and skin eruptions are associated in other cases. Many of these have been shown to be due to a septic infection, and the tonsils have been looked on as the gate of entrance of the infection. The authors consider that, in the present case, the illness was due to streptococcal infection, and, although they speak of it as cryptogenetic, they incline strongly to the view that the bacterium found its way into the body through the tonsils.—*University of Pennsylvania Medical Bulletin*, November, 1906.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Medical Philosophy: Man's Peculiarities, Weaknesses, Diseases, Degeneration and Remedies showing the Simplicity of the Science of Health and Disease, as taught by the best Writers in all Ages in all Parts of the World. By W. RUSSELL. London: Henry Kimpton. 8vo. 1907. Pp. xiv + 504.

"ALL disease is the same in all parts of the body. Its cause—morbid humours, which cause obstructions in different parts of the system; obstruction to the circulation of the blood; obstruction to the action of the different organs of the body; and obstruction to the nervous power or electricity of the brain. Its source—indigestion and constipation, or the putrefaction arising therefrom. (The 'putrid colluvies' of Sydenham, Huxham, Grant, Sims, White, Pringle, &c., the 'filth' of Boerhaave, the 'excrementitious humours' of Galen). Its remedy—purgatives." This text, placed at the head of most of the chapters of the book before us, the author proceeds to confirm by copious quotations from the older medical writers. From the earliest dawn of Medicine practitioners have recognised the importance of the regular movement of the bowels to the health of the individual, and the value of purgation as a therapeutic measure in the treatment of every disease. Our author had consequently no difficulty in finding material for his quotations, which, indeed, he tells us, is limited merely by the extent of his library. We trust if in the future he adds to his library he will find some better use for the additions than the compilation of another book on lines similar to the one before us.

That constipation is a fruitful source of ill-health will be denied by few who have even an elementary knowledge of medicine, and that any source of ill-health may be looked on as a predisposing cause to any disease is a proposition which

will receive an equally wide acceptance, but the merest tiro in logic will recognise the fallacy of concluding from these premises that all diseases are the same, or that the only treatment necessary for any of them is purgation.

Yet this is the conclusion which our author appears to wish to enforce, and he endeavours to do so by the most wearisome reiteration. The temperance movement is a failure because it does not inculcate that the desire for stimulants is the result of a disease which may be cured by purgatives. Sanitation is a "Will-o'-the-Wisp," for our object should be to "frequently flush and keep sweet and clean the drain or sewer which runs through the body, those without being of little or no importance." Modern education is an unmixed evil, for it neglects to teach the conclusions arrived at by the faulty logic of our author. It did not surprise us to find that one who holds these views was also an anti-vaccinationist, but the views of our author on this subject are striking even for a member of that body. Having quoted some statistics for the first half of the last century he proceeds as follows:—"However, in spite of these facts proving the worthlessness of vaccination in preventing small-pox, it was ordained by law in this country that all children should be vaccinated—that is, parents were compelled to increase the disease already existing in their children by inserting additional morbid matter in their veins under penalty of a fine, imprisonment, and, if they still remained cantankerous, probably of being hanged." Such statements in a book of the kind are not so objectionable as they would be were the book worth reading, or likely to be read. We are glad to think, however, that under the present circumstances they are not likely to do any harm. We feel convinced that we shall be among the very few that can say they have read the book carefully through, and we can not recommend anyone to try and add to the number.

The British Journal of Dermatology. Vol. XX. Nos. 1, 2
and 3. January to March, 1908.

WE always look with confidence for something interesting in the *British Journal of Dermatology*, and the numbers before us have quite justified that confidence. In the January

number Dr. Arthur Hall communicates a note on the ætiology of infantile eczema. In 1905 Dr. Hall examined in this connection sixty consecutive cases of infantile eczema, and now he continues his observations on forty additional cases. In all the cases the disease began during the first year of extra-uterine life, and about four-fifths of the total number began during the first four months of life. Dr. Hall finds that the primary site of eruption is almost always on some part of the scalp or face; it is always bilateral and usually symmetrical. He further found that only seven per cent. of the cases began during the summer quarter of the year, and that the preponderance of males was greater than can be accounted for by the difference in birth-ratio of the two sexes. These figures suggest the view that exposure to cold winds may be a common external irritant, and that exposure of infants to such should be avoided as a preventive and curative measure. Dr. Hall finds that the chief points laid stress upon in his former article have in every particular been fully supported by the further cases under observation.

In the February number there is an interesting paper by Dr. Sequeira dealing with fourteen cases of cancer, which had occurred on the site of a previously existing lupus, among 964 patients treated at the London Hospital for that disease during seven and a half years. Three of these fourteen patients had been treated by X-rays over very considerable periods, and Dr. Sequeira suggests that this treatment may have been an important factor in the causation of the cancer. The danger in his opinion lies, not in the setting up of a reaction, but in the constant irritation of frequent small doses.

In the March number Messrs. Galloway and MacLeod discuss the relationship between lupus erythematosus and erythema multiforme, and come to the conclusion that each may in certain cases be regarded as the ends of a chain in which all transitional stages may be encountered. Both conditions are due to toxins of various sorts and of different degrees of virulence. In erythema multiforme the toxin is probably virulent, but acts on an individual with a comparatively healthy circulation; while in lupus erythematosus the toxin is less virulent, but the patient has a defective peripheral circulation, and the toxin tends to attack places

where, for anatomical reasons, the circulation is accomplished with difficulty.

Since 1888 the Journal has been a private one under the management of a committee, but for the future it will be owned by guarantors who guarantee sums from one to three guineas in addition to their subscription, and these guarantors will elect an Editor and Managing Committee. Dr. J. M. H. MacLeod has been appointed editor, and we feel confident that under his guidance the former high standard of the paper will be worthily maintained.

Saunders' Catalogue of Medical and Surgical Books. Illustrated. London: W. B. Saunders Company. 8vo. 1907. Pp. 80.

THE rapid advance that has been made in recent years in Medicine and the allied sciences has necessitated a corresponding increase in the number of medical publications. A year or two is now sufficient to put almost any text-book on medical subjects out of date, and there is no lack of competitors for the vacant place. We are not at all satisfied that the quality of the books published has increased in proportion with the quantity, but no one need have any difficulty in obtaining plenty of really good books at a moderate price. The catalogue before us is ample evidence that the W. B. Saunders Company is not only affording the medical profession the opportunity of obtaining many good books but also of readily forming some opinion about the nature of these books before purchasing them. The high reputation that the company has gained for the books already published by it makes this list really useful as a bibliographical index, and quite justifies its inclusion in any medical man's library.

The Influence of Alcohol and other Drugs on Fatigue. By W. H. R. RIVERS, M.D., F.R.C.P. London: Edward Arnold. 1908. Pp. 136.

THIS book, which is, with some alterations, the Croonian Lectures delivered at the Royal College of Physicians in 1906,

deals with a subject beset with difficulties and liabilities to fallacy. It has to do with muscular fatigue, both of individual muscles and general muscular fatigue, and also with mental fatigue. The experiments, which were prolonged and laborious, were made on the author himself and on his fellow-workers. In experiments on man certain psychological factors come into play which are not met with in ordinary physiological or pharmacological experiments. A great part of the present work has to do with the study of these factors, or with the application of pharmacological methods to the study of the living man.

Taking fatigue as a general term applicable to both bodily and mental states, the author defines it "as a condition of lowered capacity for work which follows or occurs during the performance of work of which it is the direct result." He distinguishes between subjective fatigue or the sensations which supervene during the performance of work and objective fatigue or the lowered capacity for work, shown by a diminution in the amount of work executed. He shows that these two conditions do not always run parallel to one another, and that this has to be considered in estimating the apparent influence of a drug on fatigue.

The experiments on muscular fatigue were made by the ergographic method, modified and made more accurate by Dr. Rivers and his friends, while mental fatigue has been studied mainly by arithmetical calculations, type-writing, and M'Dougall's method of hitting a succession of dots which pass with varying rapidity through a slit before the subject of experiment.

In studying the action of drugs we are met by the fallacy of suggestion or a bias towards results which were expected theoretically; this and also the sensory stimulation involved in the act of taking the drug into the mouth and swallowing it have an influence on the result. But more important than these is "the interest and excitement produced by taking a substance when the discovery of its effect is the motive of the whole experiment." This fallacy the author meets by the obvious, but hitherto neglected, method of preparing mixtures whose taste is indistinguishable, but some of which contain the drug in question, while others do not. The subject

of experiment thus never knows whether he has or has not taken the substance whose effect is under examination.

Unfortunately our limits do not allow us to consider *seriatim* all the fallacies to which the experiments are liable, or the ingenious methods devised by the author to avoid them, or the details of his experiments. Our object in this notice is scarcely more than to direct the attention of our readers to a most valuable work in a new science, and one which promises great results, not only of theoretical interest but of the highest practical importance, as it will lead to the really accurate and scientific study of the action of drugs on the living man.

The drugs which were the chief objects of the experiments were caffeine and alcohol. It was found "that caffeine increases the capacity for both muscular and mental work, this stimulating action persisting for a considerable time after the substance has been taken without there being any evidence, with moderate doses, of reaction leading to a diminished capacity for work, the substance thus really diminishing and not merely obscuring the effects of fatigue." In one experiment, however, in which the drug was taken in excess the stimulating action was transitory and followed by a great decrease. "This experiment suggests strongly that caffeine is a dangerous remedy as a stimulant in cases of prolonged fatigue, or of that enhanced tendency to fatigue which is the characteristic feature of neurasthenia."

As regards alcohol, the results seem to be less conclusive, and we must await the termination of experiments now in progress before we draw certain conclusions. The effects previously recorded as those of small doses are proved to be not true physiological effects but merely the consequence of faulty methods of investigation, while for large doses, although no conclusive results have so far been reached, much has been done to indicate the path for future researches now being actively pursued. Under these circumstances the author advises those interested either in the therapeutical or in the dietetical value of alcohol to hesitate before drawing any practical conclusions for the present.

A brief account is given of the work which has been done with cocaïn, strychnin and tobacco, and some new experi-

ments are recorded. For these and, indeed, as we have said, for a proper understanding of the whole work, we must direct our readers to the original text. The work is one of deep interest, not only from the scientific but from the practical point of view, and we can recommend it with confidence to the notice of all those who wish to see practical medicine more scientific and less empirical.

Truth: Experimental Researches about the Descent of Man.

By H. M. BERNELOT MOENS. London: A. Owen & Co. 1908. Pp. 26.

THIS pamphlet is a sort of prospectus. The author, desirous of proving experimentally the origin of man and his relationship to the anthropoid apes, proposes to go to the Congo where he will have at his disposal two of the four anthropoids, the gorilla and the chimpanzee, while he intends to import the other two, the orang-utan and the gibbon, from India. His "experimental researches will consist of—(a) Artificial fecundation of the mature females of the anthropoid apes with the sperm of man (gorilla and chimpanzee will be especially fecundated with negro sperm); (b) the crossing of the different anthropoid apes, either by natural or artificial fecundation; (c) the study of human diseases, more especially syphilis, experimenting on anthropoid apes." He points out the great similarity in structure of men and apes, and the fact, recently shown, that their blood is of the same kind, the serum of one not destroying the corpuscles of the other. He thinks it possible that the Neanderthal man, that found at Spy, and especially *Pithecanthropus erectus* (Dubois), may be remains of hybrids between an anthropoid ape and man, and not an intermediate form. He thinks that the number of hybrids which have been already produced encourage him in his proposed research. He has by artificial impregnation produced a cross between a hare and a rabbit, and the hybrid of the male Indian leopard and the female puma from Argentina, found in the Zoological Gardens at Berlin, shows that such hybrids are possible between many different parents who live naturally in widely separated countries. He has associated with himself Dr. H. M. J. Boshonwers, who is to

undertake the pathological part of the work. He has got recommendations to the Governor-General of the French Congo from the French Government and from the Pasteur Institute, while he has received financial support from the Queen of the Netherlands, the Queen-Mother, and the Prince of the Netherlands, Duke of Mecklenburg.

The object of the present pamphlet, which is published simultaneously in English, Dutch, French and German, is to solicit further funds for carrying out this research.

We have pleasure in making this appeal known to our readers.

Pollution of New York Harbor as a Menace to Health by the Dissemination of Intestinal Diseases through the Agency of the Common House Fly. A Report by DANIEL D. JACKSON, S.B., to the Committee on Pollution of the Merchants' Association of New York. December, 1907. The Merchants' Association of New York. Pp. 22.

THE Committee on Pollution of the Merchants' Association of New York is striving to break down the present method of disposing of sewage, which is not only rapidly tending to fill up the waterways of that great city, and impair their usefulness for the purpose of navigation, but is also a most active agent in the spread of disease.

The report before us not only shows that sewage is not effectually disposed of by tidal flows, but also that the discharge of sewers into the waters adjacent to the city of New York is an active source of disease.

The investigations, upon which this important sanitary report is based, were carried out during the summer months of 1907 under the immediate direction of Dr. Daniel D. Jackson, assisted by a number of observers. They proved that the water front of Greater New York was much contaminated by human excreta. It was found that at many points sewer outfalls had not been carried below the low-water mark, in consequence of which the solid matters from the sewers were exposed on the shores. It was also shown that deposits of this nature may, and

did actually, become a source of typhoid fever and certain intestinal diseases through the agency of flies. It is this last point which lends a special value to the New York Harbour Pollution Report.

The large amount of work which was carried on during the summer of 1907 was divided into two parts—first, a thorough inspection of all sources of contamination throughout the entire water front of the city: second, a study of the prevalence and distribution of flies by fly-cages distributed in all parts of the city in order to demonstrate what proportion of the intestinal diseases in the city were contracted by means of these insects.

Examinations made of flies at the beginning of the season directly after hibernation showed that many of them carried only a few bacteria and moulds, and little or no faecal matter. Like examinations made later in the year showed the presence of numerous animal and vegetable parasites, faecal matter in abundance, large numbers and many kinds of germs. In some cases individual flies carried as many as 100,000 faecal bacteria on their legs, in their mouth, and on their bodies. Over ninety-eight per cent. of the flies found in dwellinghouses belong to one species—namely, that known as the common house-fly (*Musca domestica*). The activity of these flies extends over a very few weeks of the summer, after which most of them perish by cold or are killed by moulds and other parasites. The few which hibernate and come out in the spring are observed, in the climate of New York, about the middle of June.

These flies begin to lay eggs soon after their emergence, preferably in horse dung, but also in human excreta and in decaying animal and vegetable matter. The eggs hatch in from six to eight hours. The larvæ are white pointed maggots. They grow rapidly, cast their skins twice, and, under favourable conditions, reach full size in four or five days. The outer skin then becomes hard, swells up, and turns dark brown in colour. Within it the true pupa is found. In about five days the adult fly issues forth from a round hole in the anterior end of the brown pupa-case. The total time required for a single

generation is about ten days, and the number of generations during the summer season, stated by some authorities to be as many as twelve, is probably about one-half that number in New York. The number of eggs laid by each female fly during the season is about 1,000.

A table is given showing the total deaths by weeks from diarrhœal diseases in New York during the summer of 1907, together with the general prevalence of flies in that city. This table shows that the time of appreciable prevalence of flies in 1907 was the period from July 1 to September 30. By far the greatest number of flies were caught in cages in the weeks ending July 27 and August 3. It will also be seen from the table that deaths from intestinal complaints rose above normal at the same time at which flies became prevalent, culminated at the same high point, and fell off with slight "lag" at the time of the gradual falling off of the prevalence of the insects. A secondary rise of flies in September is reflected in a fresh rise in the number of deaths from intestinal diseases. Dr. Jackson very properly points out that the immunity from diarrhœa of breast-fed babies and the frequent occurrence of diarrhœal diseases among artificially-fed babies point strongly to the food as a medium of transmission. Much of this actual infection is, in his opinion, undoubtedly due to flies. He adds—"There is crying need for better sanitation on our dairy farms." Of one individual fly, captured on South Street, and found on examination to be carrying in his mouth and on his legs over one hundred thousand (100,000) faecal bacteria, Dr. Jackson says—"He had been walking over human excreta on the water front and was on his way to the nearest milk-pitcher."

This remarkable Report is illustrated by a number of maps, diagrams, photographs, and tables.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—J. MAGEE FINNY, M.D., F.R.C.P.I.

General Secretary—JAMES CRAIG, M.D., F.R.C.P.I.

SECTION OF PATHOLOGY.

President—A. R. PARSONS, M.D.

Sectional Secretary—PROFESSOR A. H. WHITE, R.C.S.I.

Friday, February 21, 1908.

THE PRESIDENT in the Chair.

An Exceptional Case of Tuberculosis.

DR. JAMES LITTLE said the patient, a man about forty-two, was admitted to hospital in November last looking very emaciated. He had only a cough, with a little pain in the right side of his chest. A few days after admission a student noticed a friction sound low down on the right side of the chest. His sputum did not give any tubercle bacilli. He complained of abdominal pain; he was always constipated, and his temperature was hectic, though not highly so, up to his death on February 8. About a fortnight after admission it became plain that there was fluid in the right thoracic cavity, and on passing a needle it was found to be bloody. From the character of the fluid he became certain that it was due to tuberculous mischief in the thorax, but as the fluid did not cause any inconvenience he did not draw it off. Later, however, the patient got very ill, and twenty ounces of exceedingly bloody fluid were drawn off. The symptoms improved, and the patient lived for two months, ultimately dying from inability to take food, for which he had a total dislike from the date of admission. The specimens exhibited showed an immense blood clot in the right pleural

sac. The lung itself did not appear to be affected by any tuberculous formation; it only appeared to have existed in the sac. The upper surface of the liver and lower surface of the diaphragm were affected by tuberculous disease, and the peritoneum was also the seat of diffuse tuberculous trouble. The case showed the certainty almost of a bloody pleural fluid depending on tuberculous pleurisy; it showed also that tuberculous peritonitis might affect the peritoneum without tuberculous disease of the inner surface of the intestine.

DR. KIRKPATRICK thought that the dictum about blood-stained pleural effusion being tubercular required modification: although the effusion might frequently be tubercular, certain tubercular effusions were not always hæmorrhagic. The case would suggest that in cases of primary tuberculosis of the pleura the hæmorrhagic effusion might be of considerable diagnostic value.

DR. MOORHEAD also spoke.

THE PRESIDENT asked if there was any examination made of the patient's brain.

DR. LITTLE, in reply, said there were no symptoms that pointed to the brain, and no examination was made.

Two Cases of Gangrene of Lung.

DR. LITTLE exhibited a specimen showing gangrene of the lung from a man forty-five years of age, who died four days after admission to hospital. His own statement was that he was perfectly temperate, but that had to be accepted with some reservation. He had been at home for a fortnight with what he called a cold. His temperature was not at all elevated on admission. The only striking thing about him was his cough, which was incessant. On the third day the nurse noticed extreme factor of his breath. His expectoration was always that of pneumonia. The specimen showed excavations in the lower lobe of the right lung, differing from the ordinary cavities by having no wall of circumvallation. The whole lung was in a condition of solidification.

THE SECRETARY exhibited a second specimen obtained about six years ago. The patient was a child suffering from diphtheria. The gangrenous mass was in the right lung; the destruction was quite localised, and there was a considerable amount of fibrinous pleurisy. Corresponding to the centre of the gangrenous area,

and directly facing it, was a puncture, and outside, between two ribs, the puncture mark was seen surrounded by a dark blue zone. The child had apparently been inoculated with anti-toxin at that point directly into the lung, and this seemed to be the cause of the gangrene. The gangrenous area was found, on examination, to contain diphtheria bacilli, amongst other organisms, and efforts to cultivate the organism from other parts of the lung failed. Pure cultures of diphtheria bacilli were also got from the spleen. It was possible, though improbable, that the diphtheria bacilli got there by means of the serum. It was more likely that the practitioner used a dirty needle, which caused a necrosis, and probably the bacilli were aspirated, and grew in the necrosed part, while they would not grow in the more healthy parts of the lung.

DR. DAY said the case was that of a boy of five, who came into hospital in January, 1902. He had ordinary diphtheria, and was injected with 4,000 units before admission. About two days after admission he got symptoms of pneumonia, which, however, disappeared. He then developed great fœtor of the breath, and the case was diagnosed as gangrene.

DR. KIRKPATRICK asked Dr. Little if he had formed any opinion as to the cause of the condition in his case. That primary gangrene of the lungs should start in a healthy man seemed a very unusual occurrence. They saw it occasionally following aspiration in pneumonia, and especially in patients who were anæsthetised.

DR. LITTLE, in reply, said they found no evident cause of the gangrene. The only lesion the patient had was diseased kidneys, and during life he had albuminous urine. Their knowledge of the condition was not at all precise.

Diverticula of the Urinary Bladder.

MR. L. G. GUNN exhibited five specimens of the above. The specimens were, he said, of acquired diverticula. Congenital diverticula might occur in a very young bladder, but he had never seen a congenital case. Acquired diverticula commonly occurred in the aged, and were due to either (a) increased pressure; (b) or chronic inflammation of the bladder wall; or (c) diminished blood supply occurring from arterial sclerosis. As to how diverticula occurred, they went through three stages; some obstruction took place, and the bladder hypertrophied in

order to drive the urine out. With the increase in the thickness of the muscle covering the bladder wall, fasciculation in the inner wall occurs, followed by a certain amount of atrophy of the muscle. The bladder then commenced to dilate and to thin out in places. Then a bulging occurred between the inner muscular fibres, and the mucous membrane protrudes, and so a diverticulum is formed. He did not know if it was possible to diagnose the condition in any other way than by cystoscopic examination. It had been suggested that it might be suspected if, when on washing out a bladder, a sudden gush of foul urine and some matter followed the clear return flow along the catheter. Were diverticula of much importance clinically? He did not think they were. They might conceal a stone, they certainly prevented efficient washing out, and they were a source of danger of rupture in flushing a bladder. It had, however, been a matter for wonder to him that they did not rupture spontaneously. In three cases of bladder rupture which he had seen, there were no diverticula.

DR. STOKES said he had seen a case where a man had a hernia which emptied when he micturated, and swelled up when he did not. The case was easily diagnosticated as one of diverticulum. The only hope of curing such a condition was to excise it.

DR. GUNN, in reply, agreed to Dr. Stokes's opinion as to the cure of diverticula, but the operation was an exceedingly dangerous one, as they were dealing with a bladder which probably had a poor blood supply and a septic inside.

LITERARY NOTE.

THE *Charlotte Medical Journal* and the *Carolina Medical Journal* have been consolidated. A stock company has been created which will conduct one journal in the future. The journal of the new corporation will be known as the *Charlotte Medical Journal*, and will retain the same structural features, business and editorial management as the present *Charlotte Medical Journal*. The journal, with its new influences, will be enlarged and, in many respects, greatly improved. It will remain a typical Southern journal, and will be devoted to the best interests of each member of the medical profession of the South. The Editor is Edwd. C. Register, M.D., of Charlotte, North Carolina.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE.

VITAL STATISTICS

For four weeks ending Saturday, April 18, 1908.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended April 18, 1908, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 21.7 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,131,959. The deaths registered in each of the four weeks ended Saturday, April 18, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Mar. 28	April 4	April 11	April 18			Mar. 28	April 4	April 11	April 18	
22 Town Districts	26.0	25.2	23.9	21.7	24.2	Lisburn -	50.0	18.2	13.6	22.7	26.1
Armagh -	34.4	20.6	13.7	34.4	25.8	Londonderry	35.3	20.7	31.6	24.3	28.0
Ballymena	9.6	9.6	28.7	28.7	19.2	Lurgan -	8.9	17.7	31.0	17.7	18.8
Belfast -	21.8	23.9	21.4	19.7	21.7	Newry -	25.2	42.0	37.8	42.0	36.7
Clonmel -	30.8	20.5	35.9	51.3	34.6	Newtownards	28.6	34.3	22.9	11.4	24.3
Cork -	29.5	28.8	24.0	19.2	25.4	Portadown	10.3	—	25.8	5.2	10.3
Drogheda -	32.7	20.4	40.9	16.3	27.6	Queenstown	13.2	19.8	33.0	6.6	18.2
Dublin - (Reg. Area)	27.4	26.0	22.5	23.1	24.7	Sligo -	38.4	19.2	19.2	9.6	21.6
Dundalk -	8.0	16.0	43.9	4.0	18.0	Tralee -	47.6	37.0	31.7	42.3	39.6
Galway -	19.4	23.3	7.8	27.2	19.4	Waterford	48.7	27.3	37.0	37.0	37.5
Kilkenny -	9.8	29.5	34.3	19.7	23.3	Wexford -	37.4	28.0	28.0	23.3	29.2
Limerick -	26.0	39.6	24.6	13.7	26.0						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, April 18, 1908, were equal to an annual rate of 1.8 per 1,000, the rates varying from 0.0 in twelve of the districts to 15.6 in Waterford—the 19 deaths from all causes registered in that district including 7 from measles and one from diarrhœa. Among the 144 deaths from all causes in Belfast are 5 from measles, one from typhus, 4 from whooping-cough, one from diphtheria, 2 from enteric fever, and one from diarrhœa. Three of the 20 deaths from all causes registered in Londonderry are from whooping-cough. Included in the 7 deaths registered in Galway are one each from whooping-cough and diarrhœa. One death from enteric fever is included in the 4 deaths from all causes registered in Drogheda. Among the 10 deaths registered in Newry there is also one death from enteric fever. Included in the 4 deaths from all causes registered in Lurgan is one from diphtheria, and one of the 8 deaths registered in Tralee is from enteric fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 394,525, that of the City being 303,874, Rathmines 36,087, Pembroke 28,183, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, April 18, 1908, amounted to 187—92 boys and 95 girls; and the deaths to 183—98 males and 85 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 24.2 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the Area, the rate was 23.1 per 1,000. During the sixteen weeks ended with Saturday, April 18, the death-rate averaged 26.3, and was 2.3 below the mean rate for the corresponding portions of the ten years 1898-1907.

Among the registered deaths there were 3 from measles, 2 from scarlet fever, and 3 from whooping-cough. Deaths from these diseases in the three weeks preceding were 0, 1, and 4; 0, 1, and 1;

and 3, 1, and 1, respectively. Deaths from influenza, which in the three preceding weeks were 14, 7, and 5, respectively, were again 5 in the period under notice. There was one death from varicella, and one death from cerebro-spinal fever was registered.

Lobar pneumonia and broncho-pneumonia each caused 2 deaths, and 12 deaths were from *pneumonia* (not defined).

The deaths from all forms of tuberculous disease numbered 38, and included 22 from tubercular phthisis (*phthisis*), 6 from tubercular meningitis, and 10 from other forms of the disease. In the three preceding weeks, deaths from all forms of tuberculous disease were 36, 48, and 34 respectively.

There were 4 deaths from carcinoma and 5 deaths from cancer (undefined).

Five infants that were prematurely born succumbed.

Of 21 deaths from diseases of the brain and nervous system, 7 were caused by meningitis, and 9 by *convulsions*, 2 of these being of infants under one month, 4 of children under one year but over one month, and 3 of children between one year and 5 years of age.

Twenty-nine deaths were caused by diseases of the heart and blood vessels, and 16 by bronchitis.

Four deaths were assigned to accidental causes.

In 9 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 6 children under 5 years of age (including 5 infants under one year old) and the deaths of 2 persons aged 60 years and upwards.

Fifty-two of the persons whose deaths were registered during the week ended April 18 were under 5 years of age (25 being infants under one year, of whom 9 were under one month old and 54 were aged 60 years and upwards, including 28 persons aged 70 and upwards, of whom 7 were octogenarians, and one (a man) was stated to have been aged 91 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer

of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. R. A. O'Donovan, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended April 18, 1908, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Fyrexia of uncertain origin	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal fever	Total
City of Dublin	Mar. 28	-	*	*	3	-	-	4	-	3	6	10	-	*	*	*	26
	April 4	-	*	*	9	-	-	8	-	4	14	1	-	*	*	*	46 ^a
	April 11	-	*	*	6	-	-	3	-	5	6	6	1	*	*	*	27 ^a
	April 18	-	*	*	7	-	-	7	-	1	1	6	-	*	*	2	24
Rathmines and Rathgar Urban District	Mar. 28	-	*	*	1	-	-	3	-	-	-	-	1	*	*	*	5
	April 4	-	*	*	1	-	-	-	-	-	-	1	-	*	*	*	3
	April 11	-	*	*	2	-	-	1	-	-	-	-	-	*	*	*	3
	April 18	-	*	*	2	-	-	-	-	-	2	-	-	*	*	*	4
Pembroke Urban District	Mar. 28	-	4	-	-	-	-	-	-	-	-	2	-	*	4	-	10
	April 4	-	5	-	-	-	-	-	-	-	-	-	-	*	-	-	5
	April 11	-	5	1	-	-	-	2	-	2	-	-	-	*	-	-	10
	April 18	-	4	-	-	-	-	-	-	-	-	1	-	*	-	-	5
Blackrock Urban District	Mar. 28	-	*	*	2	-	-	-	-	-	-	-	-	*	*	-	2
	April 4	-	*	*	-	-	-	-	-	-	-	-	-	*	*	-	-
	April 11	-	*	*	-	-	-	-	-	-	1	-	-	*	*	-	1
	April 18	-	*	*	-	-	-	-	-	-	-	-	-	*	*	-	-
Kingstown Urban District	Mar. 28	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	April 4	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	April 11	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
	April 18	-	*	*	1	-	-	-	-	-	-	-	-	*	*	*	1
City of Belfast	Mar. 28	-	*	*	4	-	-	3	1	1	5	6	-	*	*	3	23
	April 4	-	*	*	11	-	-	4	-	5	6	5	-	*	*	3	34
	April 11	-	*	*	5	1	-	3	-	7	7	8	1	*	*	1	28
	April 18	-	*	*	5	1	-	1	2	10	5	9	1	*	*	3	37

(a) Not including one case of cerebro-spinal fever (suspected) reported during the week ended April 4, and one case during the week ended April 11.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

Eleven cases of measles were admitted into hospital during the week ended April 18, 1908, 21 were discharged, and 42 cases remained under treatment at the close of that week.

Sixteen case of scarlet fever were admitted to hospital, 7 were discharged, there were 2 deaths, and 47 cases remained under treatment at the close of the week. This number is exclusive of 11 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

There was not one case of typhus under treatment in hospital during the week.

Seven cases of diphtheria were admitted to hospital, 6 were discharged, and 23 patients remained under treatment at the close of the week.

Four cases of enteric fever were admitted to hospital during the week, one was discharged, and 34 cases remained under treatment in hospital at its close.

In addition to the above-named diseases, 14 cases of pneumonia were admitted to hospital, 10 were discharged, there were 3 deaths, and 42 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, April 18, in 76 large English towns, including London (in which the rate was 14.7) was equal to an average annual death-rate of 15.2 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 16.4 per 1,000, the rate for Glasgow being 18.0 and that for Edinburgh 13.8.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by Sir Henry D. Littlejohn, M.D., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended April 18. From this Report it appears that of a total of 65 cases notified 40 were of scarlet fever, 15 of diphtheria, 7 of phthisis, and 3 of erysipelas. Among the 387 cases of infectious diseases in hospital at the close of the week were 208 cases of scarlet fever, 55 of measles, 38 of phthisis, 33 of diphtheria, 24 of whooping-cough, 6 of erysipelas, 65 of small-pox, and one of enteric fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of April, 1908.

Mean Height of Barometer, - - -	29.994 inches.
Maximal Height of Barometer (6th, at 9 p.m.),	30.490 ..
Minimal Height of Barometer (24th, at 3 p.m.),	29.312 ..
Mean Dry-bulb Temperature, - - -	44.3°.
Mean Wet-bulb Temperature, - - -	41.6°.
Mean Dew-point Temperature, - - -	38.3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.236 inch.
Mean Humidity, - - -	80.2 per cent.
Highest Temperature in Shade (on 30th),	63.4°.
Lowest Temperature in Shade (on 24th),	25.1°.
Lowest Temperature on Grass (Radiation) (24th),	22.9°.
Mean Amount of Cloud, - - -	55.7 per cent.
Rainfall (on 16 days), - - -	2.337 inches.
Greatest Daily Rainfall (on 27th),	.914 inch.
General Directions of Wind, - - -	N.E., N., N.W.

Remarks.

A cold month, with prevalent polar winds. Not since 1876 has such a spell of cold weather been recorded in April as that which made memorable the Easter Week of 1908. The remarkable point about this cold snap is its occurrence in one of the coldest—and most persistently cold—springs of recent times. Last month (March) was unsettled, rainy, but—above all—cold: its mean temperature was only half a degree (Fahrenheit) above that of January of this year, and was actually 2.8° below that of its predecessor, February. And April has been proportionately severe, while the defect in temperature in fact increased as the month advanced. In the course of Good Friday, the 17th, an energetic atmospheric depression suddenly formed over Denmark and its vicinity. This disturbance, with its satellite depressions, drew a polar air current southwards from Arctic regions, and this frigid current daily gathered strength. Frost set in over Scandinavia on Easter Day, became severe next day, and spread to Central Europe on Tuesday, the 21st. Another cold wave swept south-eastwards from Iceland on Wednesday (at 8 a.m. the thermometer read 24° at Thorshavn in the

Faroe). On Thursday the frost wave passed over Scotland, and on Friday the bitter cold reached Ireland and England—snow and hail fell in large quantities, and intense night-frosts threatened the promise of spring. In Dublin the mean temperature of Friday, the 24th, was 32.9° , or 14.7° below the average, the extremes being—lowest, 25.1° ; highest, 40.7° . Saturday dawned while a snowstorm was raging, but the weather improved as the day advanced, and the afternoon was fine, dry and bright. The cold weather moderated after the 26th, and the mean temperature of Thursday, the 30th, was 55.8° .

In Dublin the arithmetical mean temperature (44.7°) was 2.9° below the average (47.6°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 44.3° . In the forty-four years ending with 1908, April was coldest in 1879 (the cold year) (M. T. = 44.5°), and warmest in 1893 (M. T. = 51.4°). In 1907 the M. T. was 47.2° .

The mean height of the barometer was 29.994 inches, or 0.144 inch above the average value for April—namely, 29.850 inches. The mercury rose to 30.490 inches at 9 p.m. of the 6th, and fell to 29.312 inches at 3 p.m. of the 24th. The observed range of atmospheric pressure was, therefore, 1.178 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.3° , or 3.1° above the value for March, 1908. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* $\times .476$), the value is 44.4° , or 2.9° below the average mean temperature for April, calculated in the same way, in the thirty-five years, 1871–1905, inclusive (47.3°). The arithmetical mean of the maximal and minimal readings was 44.7° , compared with a thirty-five years' (1871–1905, inclusive) average of 47.6° . On the 30th the thermometer in the screen rose to 63.4° —wind, S.W.; on the 24th the temperature fell to 25.1° —wind, W.N.W. The minimum on the grass was 22.9° on the 24th.

The rainfall was 2.337 inches, distributed over 16 days. The average rainfall for April in the thirty-five years, 1871–1905 inclusive, was 1.940 inches, and the average number of rainy days was 16. The rainfall, therefore, was considerably in excess of the average, while the number of rainy days exactly equalled it. In 1877 the rainfall in April was very large—4.707 inches on 21 days. On the other hand, in 1873, only .498 inch was measured on 8 days. In 1907, 2.622 inches fell on 22 days.

Fog was observed on the 8th, 12th, and 13th. High winds

were noted on 5 days, but never reached the force of a gale. Hail fell on the 4th, 22nd, 23rd, and 24th; snow on the 23rd, 24th, and 25th. The temperature rose above 60° in the screen on only one day—the 30th. It failed to reach 50° on 13 days. It fell to 32° in the screen on 5 days, and on 10 nights it fell to or below 32° on the grass. The mean lowest temperature on the grass was 35.4° , compared with 36.7° in 1907, 33.6° in 1906, 37.3° in 1905, 39.1° in 1904, 37.0° in 1903, 36.8° in 1902, 37.3° in 1901, and only 31.6° in 1887.

The rainfall in Dublin during the four months ending April 30th amounted to 8.704 inches on 74 days, compared with 6.288 inches on 64 days in 1907, 9.120 inches on 77 days in 1906, 7.844 inches on 71 days in 1905, 9.056 inches on 74 days in 1904, 10.176 inches on 78 days in 1903, 7.175 inches on 59 days in 1902, 6.520 inches on 58 days in 1901, only 3.203 inches on 46 days in 1891, and a thirty-five years' (1871-1905) average of 8.070 inches on 66 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. William J. Good, returns the mean height of the barometer as 29.995 inches, the highest reading observed being 30.492 inches at 9 p.m. of the 6th, the lowest, 29.391 inches at 9 a.m. of the 25th. The mean temperature was 44.5° , the mean dry-bulb reading at 9 a.m. and 9 p.m. being 44.4° . Rain fell on 12 days to the amount of 2.183 inches, .820 inch being measured on the 27th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 138.8, giving a daily average of 4.6 hours. The corresponding figures for April, 1904, were 168 hours and 5.6 hours; for 1905, 105 hours and 3.5 hours; for 1906, 182.0 hours and 6.1 hours; and for 1907, 116.7 hours and 3.9 hours. The highest temperature in the shade was 64.0° on the 30th, the lowest was 24.3° on the 24th. The highest reading of the black bulb *in vacuo* thermometer (solar radiation) was 111.0° on the 19th. The lowest temperature on the grass (terrestrial radiation) was 17.9° on the 24th. The mean earth temperatures at 9 a.m. were—at a depth of one foot 45.3° , at a depth of 4 feet, 45.8° .

Dr. Arthur G. Price recorded 2.60 inches of rain on 15 days at Clonsilla, Greystones, the largest measurement in 24 hours being

1.04 inches on the 27th. Snow fell on the 22nd, 23rd, 24th and 25th. The thermometer rose to 62° on the 30th, having fallen to 25° on the 23rd. The mean maximum was 50.5° , the mean minimum 37.2° , and the mean temperature 43.9° . The thermometer fell to or below 32° F. on the 6th (30°), 9th (32°), 22nd (31°), 23rd (25°), 24th (26°), and 25th (29°).

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, the rainfall amounted to 2.030 inches on 14 days, compared with 2.610 inches on 18 days in 1907, 1.755 inches on 9 days in 1906, 2.835 inches on 18 days in 1905, only .930 inch on 14 days in 1904, 1.165 inches on 9 days in 1903, 3.105 inches on 14 days in 1902, and 2.800 inches on 15 days in 1901. The heaviest fall in 24 hours was 1.130 inches on the 27th. The total rainfall in 1908, up to April 30th, was 8.005 inches on 54 days, compared with 5.700 inches on 54 days in 1907, 9.420 inches on 50 days in 1906, 8.495 inches on 59 days in 1905, 9.037 inches on 68 days in 1904, 12.385 inches on 63 days in 1903, 9.215 inches on 48 days in 1902, and 10.060 inches on 56 days in 1901.

Dr. Launcelot T. Burra, Resident Medical Officer at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, reports that the rainfall at that place was 2.856 inches, distributed over 18 days, the maximal fall in 24 hours being 1.200 inches on the 27th. The mean temperature of the air was 46.2° , the thermometer in the screen having risen to 61.2° on the 4th and fallen to 29.3° on the 24th.

Dr. Arthur S. Goff reports that the rainfall at Lynton, Dundrum, Co. Dublin, was 3.14 inches on 20 days, compared with 2.43 inches on 23 days in 1907, 1.68 inches on 17 days in 1906, 3.14 inches on 24 days in 1905, 1.48 inches on 18 days in 1904, 1.35 inches on 16 days in 1903, 2.63 inches on 16 days in 1902, and 1.19 inches on 12 days in 1901. The greatest daily rainfall was 1.46 inches on the 27th. The mean shade temperature was 44.5° , compared with 48.3° in 1901, 46.6° in 1902, 45.9° in 1903, 48.9° in 1904, 46.4° in 1905, 45.4° in 1906, and 46.4° in 1907. The thermometric range was from 26° on the 24th to 67° on the 30th. Snow fell on the 22nd and 3 following days.

Mr. T. Bateman, of The Green, Malahide, Co. Dublin, returns the rainfall at 1.803 inches on 12 days, compared with 2.313 inches on 19 days in 1907, 1.336 inches on 13 days in 1906, and 1.773 inches on 22 days in 1905. The greatest fall in 24 hours was

.87 inch on the 29th. The shade mean temperature was 42.1° , compared with 44.0° in 1907, 43.6° in 1906, and 44.8° in 1905, the extremes being—highest, 63° on the 30th; lowest, 20° on the 23rd and 24th.

At 21 Leeson Park, Dublin, Dr. Christopher Joynt, F.R.C.P.I., measured 2.520 inches on 16 days, the largest amount recorded in 24 hours being 1.040 inches on the 27th.

The rainfall recorded by Miss Muriel E. O'Sullivan at White Cross, Stillorgan, was 2.591 inches on 15 days, compared with 2.458 inches on 23 days in 1907, 1.700 inches on 19 days in 1906, and 3.122 inches on 24 days in 1905. The maximum in 24 hours was 1.060 inches on the 27th.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 20 days to the amount of 2.256 inches, the greatest measurement in 24 hours being .660 inch on the 29th. The total amount of bright sunshine was 155.1 hours, of which 11.4 hours fell on the 6th, the brightest day of the month.

In Cork, according to Mr. W. Miller, the rainfall amounted to 2.27 inches on 13 days, .83 inch being measured on the 29th. Since January 1, 1908, 9.94 inches of rain have fallen in Cork against an average, for the first four months of the year, of 13.04 inches.

At the Rectory, Dunmanway, Co. Cork, the Rev. Arthur Wilson, M.A., recorded 4.56 inches of rain on 22 days. The heaviest falls in 24 hours were .77 inch on the 27th, .41 inch on the 28th, and 1.68 inches on the 29th. The month was fine and dry up to the 23rd, only an inch of rain falling in that time. The last week was very wet and cold. Snow and hail showers fell on the 22nd and three following days. The rainfall at Dunmanway in the four months ended April 30 amounted to 20.41 inches.

FIRE AT GORDON COLLEGE, KHARTOUM.

AN alarming fire broke out in the Wellcome Research Laboratories, Gordon Memorial College, Khartoum, on May 11th. Before it was got under control considerable damage was done.

PERISCOPE.

THE DIAGNOSIS AND MEDICAL TREATMENT OF GRAVES'S DISEASE AND HYPERTHYROIDISM.

DR. ALFRED STENGEL has written a valuable paper on this subject. He thinks that mild and transient enlargements of the thyroid gland and other pathological lesions of this organ, although distinct from Graves's disease, must be included with it under the more general heading of hyperthyroidism, because in any case a gradual transition and a termination in a severe form is possible. Hyperthyroidism is due to increased and perhaps perverted secretion of the thyroid, and is therefore promoted by increased vascularity and hypertrophy of the gland. Methods of treatment designed to reduce vascularity or to limit secretion functionally or by actual destruction of glandular substance should be investigated hopefully. General medical treatment; iron and arsenic; digitalis, strophanthus and convallaria; atropin, ergot, and mild currents of Faradic or Galvanic electricity are useful respectively in improving the blood, the general and the local circulation. Iodine is a dangerous drug, and thyroid extract should not be employed, although in some cases good results have followed the employment of the latter. Three forms of specific treatment have been suggested:—(a) By the production of antitoxic substances; (b) by the preparation of cytolytic substances; and (c) by the use of X-rays. The statistical evidence in favour of the antitoxic serums, such as the antithyroidin of Möbius, the milk of thyroidectomised goats and the like, is very encouraging, but cannot yet be fully accepted. The results obtained with the cytolytic serum of Rogers and Beebe are equally or even more encouraging, and the treatment seems to rest upon a scientific basis. The methods of preparing the serum, however, require refinement and elimination of certain defects. The X-ray treatment has not been sufficiently used to justify a final expression of opinion as to its merits.—*Pennsylvania Medical Journal*, December, 1906.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College held on May 18, 1908, the following gentlemen were elected Fellows:—Leo Ferdinando Bianchi,

L.R.C.S.E., M.R.C.P.E., D.P.H., Edinburgh; Walter Henry Ormonde Garde, L.R.C.S.E., Staff Surgeon, Royal Navy; John Langton Gilks, M.R.C.S. Eng., L.R.C.P. Lond., London, S.E.; Dirk Jacob Hugo Hamman, M.B., Ch.B., Cape Colony; William Claude Horton, M.B., Ch.B., Birmingham; John Jardine, M.B., Ch.B., D.P.H., Penicuik; James Blacklay Lockerbie, M.B., Ch.B., Dumfries; George McNeill, M.B., Ch.B., St. Andrews; Donald Murray, Ross, M.B., M.R.C.S. Eng., L.R.C.P. Lond., Melbourne; Charles William Smith, M.B., L.S.A., Sheffield, and Raymond Herbert Swindells, M.B., Ch.B., Fairfield, near Manchester. The Medal and Set of Books presented to the College by Colonel William Lorimer Bathgate, in memory of his late father, William McPhune Bathgate, F.R.C.S.E., Lecturer on *Materia Medica* in the Extra Academical School, was awarded after the usual competitive written examination in *Materia Medica*, &c., to Miss Lucy Mary Muir, 12 Buccleuch Place, Edinburgh.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Soloid" Black Mercurial Lotion.

"SOLOID" black mercurial lotion presents a very convenient means of preparing a mercurial or black lotion, the value of which is well recognised in condylomata and other syphilitic manifestations, in pruritus and in many other skin affections. One "soloid," powdered and shaken with one fluid ounce of water, makes a lotion corresponding in strength of active ingredient to *lotio hydrargyri nigra*, P.B. The official preparation may be more closely approximated by the addition of 24 minims of glycerine to the fluid ounce. "Soloid" black mercurial lotion is issued by Messrs. Burroughs, Wellcome & Co., London, in bottles of twenty-five.

INDEX

TO THE

ONE HUNDRED AND TWENTY-FIFTH VOLUME.

- Acetonæmia. Dr. H. Brougham Leech on, 86.
- Adamson, Dr. G. H., skin affections of childhood, *Rev.*, 127.
- Addison's disease in children, by Feldebaum and Furstthandler, 79.
- Aids to pathology, by Dr. Harry Campbell, *Rev.*, 368.
- Alcohol and mental disease, Dr. W. R. Dawson on, 382, 412.
- Alcohol, influence of, on fatigue, by Dr. Rivers, *Rev.*, 450.
- Allbutt, Clifford, System of Medicine, by many writers, *Rev.*, 197.
- Almanack for the year of Our Lord 1908, Joseph Whitaker's, *Rev.*, 107.
- Analgesic balm, 398.
- Anatomy, practical, manual of, by Prof. D. J. Cunningham, *Rev.*, 31.
- Anatomy, applied, surgical, by Sir Frederick Treves, *Rev.*, 111.
- Anatomy of the iliac colon in relation to hernia, Mr. R. A. Stoney on, 295.
- Aneurysms of aorta, Dr. Earl on, 221.
- Aortic aneurysm, Dr. Boxwell on, 220.
- Appendicostomy for mucous colitis, Mr. Seton Pringle on, 132.
- Atkinson, Dr. Stanley, office of midwife under the Midwives Act, *Rev.*, 355.
- Atlas of obstetrics, by Dr. Barbour Simpson and Mr. Edward Burnet, 20.
- Barnett, Mr. H. Norman, sea sickness: its true cause and cure, *Rev.*, 46.
- Barnhill, Dr. John F., principles and practice of modern otology, *Rev.*, 278.
- Barton, Dr. G. A. H., guide to the administration of ethyl chloride, *Rev.*, 276.
- Bewley, Dr., septic endocarditis, 218.
- Bilateral abductor paralysis of the larynx, Dr. Knight on, 237.
- Bilateral thrombosis of the sigmoid sinus, Dr. Gruening on, 236.
- Billings, Dr. F., the Practical Medicine Series, general medicine, *Rev.*, 46.
- Bingel, on cirrhosis of the liver, 80.
- Bladder, villous tumour of the, Dr. Boxwell on, 64.
- Book of prescriptions, by Dr. Beasley, *Rev.*, 51.
- Boxwell, Dr.—aortic aneurysm, 220; carcinoma, 65; two cases of poisoning by crude phenol, 222; villous tumour of the bladder, 64.
- British Journal of Dermatology, *Rev.*, 448.
- Bulkley, Dr. L. Duncan, influence of the menstrual function on certain diseases of the skin, *Rev.*, 122.
- Bunge, Dr. G. v., text-book of organic chemistry for medical students, *Rev.*, 280.
- Burnet, Dr. Edward, Atlas of obstetrics, 20.
- Burnham, Dr. G. Herbert, combined treatment in diseases of the eye, *Rev.*, 290.
- Burroughs, Wellcome & Co., tabloid quinine compound, 160; "soloid" black mercurial lotion, 472.
- Campbell, Dr. Harry, aids to pathology, *Rev.*, 368.
- Cancer of the rectum: its surgical treatment, by Mr. Harrison Cripps, *Rev.*, 111.
- Cancer of the stomach, by Mr. A. W. Mayo Robson, *Rev.*, 111.
- Cancer of the bladder, Mr. L. G. Gunn on, 65.
- Carcinoma, Dr. Boxwell on, 65.
- Carcinoma of ovary, Dr. A. N. Holmes on, 62.
- Charlotte Medical Journal, 460.
- Chemical investigation of gastric and intestinal diseases by the aid of test-meals, by Dr. Vaughan Harley and Dr. F. W. Goodbody, *Rev.*, 109.
- Chilblains, two useful prescriptions for, 143.
- Childhood, skin affections of, by Dr. G. A. Adamson, *Rev.*, 127.
- "Christia" accouchement sheet, 398.
- Cirrhosis of the liver, by Bingel, 80.
- Clinical studies, post-graduate, by Dr. Harold Scott, *Rev.*, 117.

- Clutterbuck, Dr. L. A., nerve diseases, *Rev.*, 42.
- Cod liver oil, influence of, upon the nutrition of tuberculous pigs. Dr. J. W. Wells, F.C.S., on, *Rev.*, 126.
- Combined treatment in diseases of the eye, by Dr. G. Herbert Burnham, *Rev.*, 290.
- Coronary artery, spontaneous rupture of a, 238.
- Craig, Dr.—functional spastic paraplegia, 52; round worm in larynx and trachea, 223.
- Cripps, Mr. Harrison, diseases of the rectum and anus, *Rev.*, 110.
- Crowley, Dr. G. Allan, some points on the diagnosis of scarlet fever, 256.
- Cryptogenetic streptococcus infection, 445.
- Cullingworth, Dr. C. J., short manual for monthly nurses, *Rev.*, 121, 355.
- Cumston, Dr. Charles Greene, pulmonary embolus, 91.
- Cunningham, Dr. D. J., manual of practical anatomy, *Rev.*, 31.
- Cystoma of ovary, Dr. A. N. Holmes on, 62.
- Da Costa, Dr. John Chalmers, modern surgery, general and operative, *Rev.*, 110.
- Dampier-Bennett, Mr. Arthur C., physical methods in the treatment of heart disease, *Rev.*, 128.
- Dawson, Dr. W. R., alcohol and mental disease, 382, 412.
- Dermatology, British Journal of, *Rev.*, 448.
- Diagnosis, surgical, by Dr. Daniel N. Eisendrath, *Rev.*, 110.
- Dictionary, medical, the practitioner's, by Dr. George M. Gould, *Rev.*, 31.
- Diphtheritic fever, Sir John Moore on, 10.
- Diseases, nerve, by Dr. L. A. Clutterbuck, *Rev.*, 42.
- Diseases of the rectum and anus, by Mr. Harrison Cripps, *Rev.*, 110.
- Diseases of the throat, nose and ear, guide to diagnosis in, by Dr. Daniel McKenzie, *Rev.*, 200.
- Diseases of the skin, influence of the menstrual function on, by Dr. L. Duncan Bulkley, *Rev.*, 122.
- Diseases of the eye, combined treatment in, by Dr. G. Herbert Burnham, *Rev.*, 290.
- Diseases of the nose and throat, by Dr. D. Baden Kyle, *Rev.*, 349.
- Donville, Mr. Ed. J., manual for hospital nurses, *Rev.*, 126.
- Dore, Dr. S. Ernest, light and X-ray treatment of skin diseases, *Rev.*, 279.
- Drew, Dr. Gilman A., a laboratory manual of invertebrate zoology, *Rev.*, 208.
- Dublin Tuberculosis Exhibition of 1907 and the lessons to be learned from it, Sir Robert Matheson on, 241.
- Dublin rainfall in 1907, 154.
- Dublin University Calendar for Year 1907-1908, vol. II., *Rev.*, 284.
- Duodenal ulcer, Mr. A. B. Mitchell on, 429.
- Earl, Dr. H. C.—aneurysms of aorta, 221; blood slides showing marked eosinophilia, 222; intra-thoracic lympho-sarcoma, 200; pathology of nephritis, 178, 223.
- Eccles, Mr. W. McAdam, the Lees and Raper Memorial Lectures, 78.
- Edinburgh stereoscopic atlas of anatomy, 20.
- Eisendrath, Dr. Daniel N., surgical diagnosis, *Rev.*, 110.
- Elements of physics for medical students, by Mr. F. J. M. Page, *Rev.*, 368.
- Epidemic diarrhoea and its influence on infantile mortality, Dr. Thomas Ottiwell Graham on, 331.
- Epilepsy, study of the idiopathic disease, by Dr. W. Aldren Turner, *Rev.*, 39.
- Epileptic, treatment of the, Dr. Ernest T. Jameson on, 100.
- Esmarch Friedrich, Dr., first aid to the injured, *Rev.*, 50.
- Essentials of human physiology, by Dr. D. Noel Paton, *Rev.*, 289.
- Essentials of cytology, by Charles Edward Walker, *Rev.*, 353.
- Ethics, medical: a guide to professional conduct, by Dr. Robert Saundby, *Rev.*, 48.
- Ethyl chloride, guide to the administration of, by Dr. G. A. H. Barton, *Rev.*, 276.
- Exophthalmic goitre, Sir Thomas Myles on, 294.
- Eye-strain, Dr. Kirkpatrick on, 57.
- Feldebaum and Furstthandler, Addison's disease in children, 79.
- Fernie, Dr. W. T., precious stones, for curative wear and other remedial uses, likewise the nobler metals, *Rev.*, 351.
- Fever, diphtheritic, Sir John Moore on, 10.
- Fevers in the tropics: their clinical and

- microscopical differentiation, by Dr. Leonard Rogers, *Rev.*, 356.
- Fibro-myomata, Dr. Alfred Smith on, 58.
- Finny, Dr. J. Magee, prognosis and treatment of nephritis, 161, 223.
- Fire at Gordon College, Khartoum, 470.
- First aid to the injured, six Ambulance Lectures, by Dr. Friedrich Eschmarch, *Rev.*, 50.
- "First aid" to the injured and sick: an advanced ambulance handbook, by Dr. F. J. Warwick and Dr. A. C. Tunstall, *Rev.*, 211.
- First lines in midwifery, by Dr. Ernest Herman, *Rev.*, 368.
- Fisher, Chas. P., should the size or growth of a medical library be restricted? *Rev.*, 363.
- Formamint, 239.
- French, Dr. Herbert, medical laboratory methods and tests, *Rev.*, 368.
- Freytag, Friedrich, functions of the spleen, 235.
- Functions of the spleen, by Friedrich Freytag, 235.
- Functional neuroses, Dr. Kirkpatrick on, 57.
- Functional spastic paraplegia, Dr. Craig on, 52.
- Future teaching of practical midwifery, Sir William Smyley on, 81.
- Gangrene, thrombosis of the arm with, Dr. O'Carroll on, 65.
- Gastric and intestinal diseases, chemical investigation of, by the aid of test-meals, by Dr. Vaughan Harley and Dr. F. W. Goodbody, *Rev.*, 109.
- Gastro-jejunostomy—microscopic examination of the viscera after operation, Mr. W. J. Greer on, 253; for duodenal ulcer, Mr. A. B. Mitchell on, 429.
- Gelatin-coated pills, aloin and phenolphthalein compound, 398.
- Goodbody, Dr. F. W., chemical investigation of gastric and intestinal diseases by the aid of test-meals, *Rev.*, 109.
- Gordon College Khartoum, fire at, 470.
- Gould, Dr. George M., practitioner's medical dictionary, *Rev.*, 31.
- Grafting of fibula to tibia, Mr. R. A. Stoney on, 291.
- Graham, Dr. Thomas Ottiwell, epidemic diarrhoea and its influence on infantile mortality, 331.
- Graves's disease, diagnosis and treatment of, 471.
- Green's Encyclopedia and Dictionary of Medicine and Surgery, *Rev.*, 305, 361.
- Greer, Mr. W. J., microscopic examination of the viscera after operation of gastro-jejunostomy for non-malignant disease, 253.
- Gruening, Dr., bilateral thrombosis of the sigmoid sinus, 236.
- Guide to the diagnosis in diseases of the throat, nose and ear, by Dr. Daniel M'Kenzie, *Rev.*, 200.
- Guide to the administration of ethyl chloride, by Dr. G. A. H. Barton, *Rev.*, 276.
- Gunn, Mr. L. G.—cancer of the bladder, 65; post-anæsthetic vomiting, 292; diverticula of urinary bladder, 459.
- Guy's Hospital Reports, *Rev.*, 288.
- Gynæcology and abdominal surgery, by Dr. Howard A. Kelly, *Rev.*, 123.
- Hæmorrhage, intrameningeal, Mr. R. Atkinson Stoney on, *Rev.*, 129.
- Handbook of skin diseases and their treatment, by Dr. A. Whitfield, *Rev.*, 122.
- Hanging, cases of, Prof. White on, 67.
- Hare, Dr. Hobart Amory, a text-book of practical therapeutics, *Rev.*, 30.
- Harley, Dr. Vaughan, chemical investigation of gastric and intestinal diseases by the aid of test-meals, *Rev.*, 109.
- Harvey, Dr. G., sarcoma of tibia, 66.
- Health, science of, Dr. W. H. Thompson on, 212.
- Herman, Dr. Ernest, first lines in midwifery, *Rev.*, 368.
- Heart disease, physical methods in the treatment of, by Mr. Arthur C. Dampier-Bennett, *Rev.*, 128.
- Hirschberg, Dr., magnet in ophthalmic therapeutics, 68.
- Holiday Whitaker, the, *Rev.*, 108.
- Holmes, Dr. A. N.—carcinoma of ovary, 62; cystoma of ovary, 62.
- Holmes, Dr., purulent inflammation of the nasal and aural cavities, 237.
- Hopf, Dr. Ludwig, ueber das spezifisch Menschliche in anatomischer, physiologischer und pathologischer Beziehung — Eine kritisch-vergleichende Untersuchung, *Rev.*, 23.
- Hospital nurses, manual for, by Mr. E. J. Domville, *Rev.*, 126.
- Human physiology, essentials of, by Dr. D. Noël Paton, *Rev.*, 289.
- Hygiene and public health, by Dr. L. H. Parkes, *Rev.*, 371.
- Hypert thyroidism, 471.

- Index of Treatment, by various writers. *Rev.*, 287.
- Influence of the menstrual functions on certain diseases of the skin, by Dr. L. Duncan Bulkley. *Rev.*, 122.
- Influence of cod liver oil upon the nutrition of tuberculous pigs, by Dr. J. W. Wells. *Rev.*, 126.
- "In Memoriam"—Conolly Norman. 316; J. Byrne Power 399.
- Intra-thoracic tumour. Dr. Travers Smith on, 219.
- Intra-thoracic lympho-sarcoma. Dr. Earl, on, 200.
- Intramenigeal hæmorrhage. Mr. Atkinson Stoney, on, 129.
- Invalid Bovril. Bovril Co., Ltd., 239.
- Invertebrate zoology, a laboratory manual of, by Dr. Gilman A. Drew. *Rev.*, 208.
- Jackson, Chevalier, ligation of the external carotid artery, 196.
- Jackson, Dr. Daniel D., pollution of New York Harbor. *Rev.*, 454.
- Jameson, Dr. Ernest T., treatment of the epileptic, 100.
- Jones, Dr. Robert, text-book of mental and sick nursing. *Rev.*, 32.
- Kaminer, Dr. S., marriage and disease. *Rev.*, 352.
- Kelly, Dr. Howard A., gynecology and abdominal surgery. *Rev.*, 123.
- Khartoum, fire at Gordon College 470.
- Kingzett, Mr., nature's hygiene and sanitary chemistry. *Rev.*, 209.
- Kirkpatrick, Dr., eye-strain, 57.
- Knight, Dr., bilateral abductor paralysis of the larynx, 237.
- Krehl, Dr. Rudolph, the principles of clinical pathology, text-book for students and physicians. *Rev.*, 37.
- Kyle, Dr. D. Baden, diseases of the nose and throat. *Rev.*, 349.
- Kyle, Dr. J. Johnson, manual of diseases of the ear, nose and throat. *Rev.*, 367.
- Laboratory manual of invertebrate zoology, by Dr. Gilman Drew. *Rev.*, 208.
- Langmaid, Dr., massage of the pharynx, 225.
- Laryngeal specimens, Professor White on, 67.
- Laveran, A., trypanosomes and trypanosomiasis. *Rev.*, 21.
- Leech, Dr. H. Brougham, acetonaemia, 86.
- Lees and Raper Lectures, by Mr. William M'Adam Eccles. 78.
- Ligation of the external carotid artery, Dr. Chevalier Jackson, 196.
- Light and X-ray treatment of skin diseases, by Sir Malcolm Morris and Dr. S. Ernest Dore. *Rev.*, 279.
- Literary note, Atlas of Obstetrics, by Dr. Barbour Simpson and Mr. Edward Burnet, 20; Charlotte Medical Journal, 460.
- Little, Dr. James—exceptional case of tuberculosis, 457; gangrene of lung, 458.
- Lucas, Mr. E. W., book of prescriptions. *Rev.*, 51.
- Lung, gangrene of, Dr. Little on, 458.
- Macan, Sir A. V., uterine carcinoma, 58.
- Magnet in ophthalmic therapeutics, by Dr. Hirschberg, 68.
- Manifestations of congenital syphilis in the nervous system, Dr. Albert E. Wynne on, 191.
- Manual for hospital nurses, by Mr. Edward J. Domville. *Rev.*, 126.
- Manual of pathology, by Dr. Guthrie McConnell. *Rev.*, 45.
- Manual of practical anatomy, by Dr. D. J. Cunningham. *Rev.*, 31.
- Manual of surgery, by Mr. Alexis Thomson. *Rev.*, 111.
- Manual of venereal diseases, by Officers of the Royal Army Medical Corps. *Rev.*, 36.
- Manual of prescribing: for students and practitioners of medicine, by Dr. C. R. Marshall. *Rev.*, 199.
- Manual of the practice and theory of Medicine, by Sir William Whitla. *Rev.*, 345.
- Manual of diseases of the ear, nose and throat, by Dr. J. Johnson Kyle. *Rev.*, 367.
- Marshall, Dr. C. R., manual of prescribing for students and practitioners of medicine. *Rev.*, 199.
- Marriage and disease, by Professor H. Senator and Dr. S. Kaminer. *Rev.*, 352.
- Massage of the pharynx, Dr. Langmaid on, 225.
- Matheson, Sir Robert, Dublin Tuberculosis Exhibition of 1907 and the lessons to be learned from it, 141.
- Maunsell, Mr., operation for carcinoma of the mouth, 134.
- Medical ethics, a guide to professional conduct, by Dr. Robert Saundby. *Rev.*, 48.

- Medical laboratory methods and tests, by Dr. H. French, *Rev.*, 368.
- Medical philosophy, by W. Russell, *Rev.*, 447.
- Medicine Series, General Medicine, by Dr. F. Billings, *Rev.*, 46.
- Medicine, Proceedings of the Royal Society of, edited by Dr. John Nachbar, *Rev.*, 119.
- Medicine and Surgery, Green's Encyclopedia and Dictionary of, *Rev.*, 205, 361.
- Medicine, System of, by Dr. William Osler and Mr. Thomas McCrae, *Rev.*, 28, 106.
- Mesnil, F., trypanosomes and trypanosomiasis, *Rev.*, 21.
- Metabolism and practical medicine, Dr. Carl von Noorden, *Rev.*, 283.
- Meteorological Notes, 74, 149, 231, 308, 393, 466.
- Microscopic examination of the viscera after operation of gastro-jejunostomy for non-malignant disease, Mr. W. J. Greer on, 253.
- Mitchell, Mr. A. B., gastro-jejunostomy for duodenal ulcer, 429.
- Modern surgery, general and operative, by Dr. John Chalmers Da Costa, *Rev.*, 110.
- Modification of Neville's forceps, Sir A. Macan on, 380.
- Moens, H. M. B., the truth about the descent of man, *Rev.*, 453.
- Monthly nurses, short manual for, by Dr. C. J. Cullingworth, *Rev.*, 121.
- Moore, Sir John—diphtheritic fever, 10, 54; sanitary and meteorological notes, 69, 144, 226, 303, 387, 461.
- Moorhead, Dr. T. Gillman, unusual pulmonary cases, 401.
- Morris, Sir Malcolm, light and X-ray treatment of skin diseases, *Rev.*, 279.
- Myles, Sir Thomas, exophthalmic goitre, 294.
- McCrae, Mr. Thomas, system of medicine, *Rev.*, 28, 106.
- McConnell, Dr. Guthrie, manual of pathology, *Rev.*, 45.
- Nachbar, Dr. John, Proceedings of the Royal Society of Medicine, *Rev.*, 119.
- Nasal and aural cavities, purulent inflammation of the, Dr. Holmes on, 237.
- Nature's Hygiene and sanitary chemistry, by Mr. C. T. Kingzett, *Rev.*, 209.
- Nephritis, prognosis and treatment of, Dr. J. Magee Finny on, 161, 223.
- Nephritis, pathology of, Dr. H. C. Earl on, 178, 223.
- Nerve diseases, by Dr. L. A. Clutterbuck, *Rev.*, 42.
- New clinical chart, by Dr. L. Kidd, 397.
- New induction coil for Röntgen ray work, constructed by Dr. J. Rosenthal, 79.
- New Sydenham Society's Atlas, *Rev.*, 286.
- New York Harbor, pollution of, by Dr. Daniel D. Jackson, *Rev.*, 454.
- Nicholitsch, Th., technique of vaginoperitoneal operations, *Rev.*, 118.
- Noorden, Dr. Carl von, metabolism and practical medicine, *Rev.*, 283.
- Nursing, mental and sick, a text-book of, by Dr. Robert Jones, *Rev.*, 32.
- Nursing, practical fever, by Dr. Edward C. Register, *Rev.*, 32.
- Obituary notices—Dr. Conolly Norman, 316; Dr. John Byrne Power, 399.
- Obstetrics, Atlas of, by Dr. Barbour Simpson, 20.
- Obstetrics, Section of, in the Royal Academy of Medicine in Ireland, 135.
- Obstetrics, practice of, by Dr. Ruben Peterson, *Rev.*, 38.
- Obstetrics, a text-book for the use of students and practitioners, by J. Whitridge Williams, *Rev.*, 284.
- Obstetric nursing, by Dr. W. B. Wilson, *Rev.*, 356.
- O'Carroll, Dr., thrombosis of the arm with gangrene, 65.
- Ocular manifestations of syphilis, Dr. Thomas J. Townsend Wilmot on, 339.
- Office of midwife under the Midwives Act, by Mr. Stanley Atkinson, *Rev.*, 355.
- Officers of the Royal Army Medical Corps, manual of venereal diseases, *Rev.*, 36.
- Oliver, Dr. George, studies in blood pressure, physiological and clinical, *Rev.*, 207, 282.
- Operations for carcinoma of the mouth, Dr. Maunsell on, 134.
- Operative treatment of puerperal infection, Sir A. Macan on, 381.
- Organic chemistry, text-book of, for medical students, by Dr. G. v. Bunge, translated by R. H. Aders Plimmer, *Rev.*, 280.
- Osler, Dr. William, a System of Medicine, *Rev.*, 28, 106.
- Ovarian cystoma, double, Sir A. V. Macan on, 58.

- Ovum from horn of bicornuate uterus, Dr. E. H. Tweedy on, 379.
- Page, Mr. F. J. M., elements of physics for medical students, *Rev.*, 368.
- Paralysis of the larynx, bilateral abductor, Dr. Knight on, 237.
- Parkes, Dr. Louis H., hygiene and public health, *Rev.*, 371.
- Pathology, manual of, by Dr. Guthrie McConnell, *Rev.*, 45.
- Pathology of nephritis, Dr. H. C. Earl on, 178, 223.
- Pathology, Section of, in the Royal Academy of Medicine in Ireland, 64, 457.
- Paton, Dr. E. Noël, essentials of human physiology, *Rev.*, 289.
- Pelvic inflammation in the female, by Dr. Thomas Wilson, *Rev.*, 356.
- Periscope, 78, 159, 235, 312.
- Pharynx, massage of the, Dr. Langmaid on, 225.
- Photocopy (skiascopy or retinoscopy), by Dr. Mark D. Stevenson, *Rev.*, 29.
- Physical methods in the treatment of heart disease, by Mr. Arthur C. Dampier-Bennett, *Rev.*, 128.
- Plague investigations in India, reports on, *Rev.*, 201.
- Plea for the non-operative treatment of diseases of women, Dr. Alfred de Roulet, 1.
- Plimmer, R. H. Aders, text-book of organic chemistry for medical students.
- Poisoning by crude phenol, two cases of, Dr. Boxwell on, 222.
- Post-anæsthetic vomiting, Dr. L. G. Gunn on, 292.
- Post-graduate clinical studies, by Dr. H. Scott, *Rev.*, 117.
- Powell, Sir R. Douglas, on tar in chronic winter cough, 79.
- Practical fever nursing, by Dr. Edward C. Register, *Rev.*, 32.
- Practical Medicine Series, General Medicine, by Dr. F. Billings, *Rev.*, 46; by Dr. John B. Murphy, *Rev.*, 111.
- Practical midwifery, future teaching of, Sir William Smyly on, 81.
- Practice of obstetrics, by Dr. Ruben Peterson, *Rev.*, 38.
- Practitioner's medical dictionary, by Dr. George M. Gould, *Rev.*, 31.
- Precious stones, for curative wear and other remedial uses; likewise the nobler metals, Dr. W. T. Fernie, *Rev.*, 351.
- Prescribing, a manual of, for students and practitioners of medicine, by Dr. C. R. Marshall, *Rev.*, 199.
- Prescriptions, book of, by Dr. Beasley, *Rev.*, 51.
- Principles and practice of dermatology, by Dr. W. A. Pusey, *Rev.*, 285.
- Principles and practice of modern otology, by Dr. John F. Barnhill and Dr. Ernest de Wolfe Wales, *Rev.*, 278.
- Principles of clinical pathology, text-book for students and physicians, by Dr. Rudolph Krehl, *Rev.*, 37.
- Pringle, Mr. Seton, appendicostomy for mucous colitis, 132.
- Proceedings of the Royal Society of Medicine, edited by Dr. John Nachbar, *Rev.*, 119.
- Prognosis and treatment of nephritis, Dr. J. Magee Finny on, 161, 223.
- Pulmonary cases, some unusual, Dr. Moorhead on, 401.
- Pulmonary embolus, Dr. Charles Greene Cumston on, 91.
- Purulent inflammation of the nasal and aural cavities, Dr. Holmes on, 237.
- Pusey, Dr. W. A., principles and practice of dermatology, *Rev.*, 285.
- Rainfall in Dublin, 1907, 154.
- Rectum and anus, diseases of the, by Mr. Harrison Cripps, *Rev.*, 110.
- Rectum, cancer of the, its surgical treatment, by Mr. Harrison Cripps, *Rev.*, 111.
- Register, Dr. Edward C., practical fever nursing, *Rev.*, 32.
- Reports on plague investigations in India, *Rev.*, 201.
- Retinoscopy (or shadow test), by Dr. James Thorington, *Rev.*, 206.
- Rivers, Dr. W. H. R., influence of alcohol on fatigue, *Rev.*, 450.
- Robson, Mr. Mayo, cancer of the stomach, *Rev.*, 111.
- Rogers, Dr. Leonard, fevers in the tropics, their clinical and microscopical differentiation, *Rev.*, 356.
- Rolleston, Dr. Humphrey Davy, and Sir T. Clifford Allbutt, System of Medicine by many writers, *Rev.*, 197.
- Rosenthal, Dr. J., new induction coil for Röntgen-ray work, 79.
- Roulet, Dr. Alfred de, a plea for the non-operative treatment of diseases of women, 1.
- Round worm in larynx and trachea, Dr. J. Craig on, 223.
- Royal Academy of Medicine in Ireland, 52, 129, 218, 291.
- Royal College of Surgeons of Edinburgh, 78.
- Royal Society of Medicine, Proceedings of, edited by Dr. John Nachbar, *Rev.*, 119.

- Russell, Dr. Alfred E., selected essays on syphilis and small-pox, *Rev.*, 41.
- Russell, W., Medical Philosophy, *Rev.*, 447.
- Sanitary and meteorological notes, compiled by Sir John Moore, 69, 144, 226, 303, 387, 461.
- Sarcoma of the tibia, Dr. G. Harvey on, 66.
- Sarcoma of the uterus, Sir William Smyly on, 59.
- Saundby, Dr. Robert, medical ethics, a guide to professional conduct, *Rev.*, 48.
- Saunders, W. B., catalogue of books, *Rev.*, 350.
- Scarlet fever, some points on the diagnosis of, Dr. Allan G. Crowley on, 256.
- Science of health, Dr. W. H. Thompson on, 212.
- Scott, Dr. Harold, post-graduate clinical studies, *Rev.*, 117.
- Scott's Emulsion doctor's diary and emergency note-book for 1908, nurse's diary and emergency note-book for 1908, *Rev.*, 109.
- Sea-sickness, its true cause and cure, by Mr. H. Norman Barnett, *Rev.*, 46.
- Section of—Anatomy and Physiology in the Royal Academy of Medicine in Ireland, 295—State Medicine, 382—Obstetrics, 58, 135, 179—Pathology, 64, 457.
- Selected essays on syphilis and small-pox, by Dr. Alfred E. Russell, *Rev.*, 41.
- Senator, Professor H., marriage and disease, *Rev.*, 352.
- Septic endocarditis, Dr. Bewley on, 218.
- Short manual for monthly nurses, by Dr. P. J. Cullingworth, *Rev.*, 121, 355.
- Should the size or growth of a medical library be restricted? by Chas. Perry Fisher, *Rev.*, 363.
- Simpson, Dr. Barbour, Atlas of Obstetrics, 20.
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- Smith, Dr. Alfred, fibro-myoma, 58.
- Smith, Dr. Travers, on intra-thoracic tumour, 219.
- Smith, Dr. Walter G., some points in the clinical examination of urine, 321.
- Smyly, Sir William—sarcoma of the uterus, 59; future teaching of practical midwifery, 81.
- Some points in the clinical examination of urine, Dr. Walter G. Smith on, 321.
- Some points on the diagnosis of scarlet fever, Dr. G. Allan Crowley on, 256.
- Spleen, functions of the, by Friedrich Freytag, 235.
- Spontaneous rupture of a coronary artery, 238.
- Stelwagon, Dr. H. W., treatise on diseases of the skin, *Rev.*, 360.
- Stevenson, Dr. Mark D., photoscopy (skiascopy or retinoscopy), *Rev.*, 29.
- Stomach, cancer of, by Mr. A. W. Mayo Robson, *Rev.*, 111.
- Stoney, R. Atkinson—intrameningeal hæmorrhage, 129; two unusual cases, 270; grafting of fibula to tibia, 291; anatomy of the iliac colon in relation to hernia, 295; report on surgery, 373.
- Studies in blood pressure, physiological and clinical, by Dr. George Oliver, *Rev.*, 207; 2nd edition, *Rev.*, 282.
- Suffocation, Professor White on, 67.
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- System of medicine, by Dr. William Osler and Mr. Thomas McCrae, *Rev.*, 28, 106.
- Talma-Morison operation for hepatic cirrhosis, Mr. W. I. de C. Wheeler on, 131.
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- Thomson, Mr. Alexis, manual of surgery, *Rev.*, 111.
- Thorington, Dr. James, retinoscopy (or shadow tests), *Rev.*, 206.
- Thrombosis of the arm with gangrene, Dr. O'Carroll on, 65.
- Tibia, sarcoma of, Dr. Harvey on, 66.
- Toffee, Worth, 80.
- Tracheotomy tube, ulceration of, into aorta, Professor White on, 67.
- Treatise on diseases of the skin, by Dr. Henry W. Stelwagon, *Rev.*, 360.
- Treatment of the epileptic, Dr. Ernest T. Jameson on, 100.
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- Tuberculosis Exhibition of 1907 and lessons to be learned from it, Sir Robert Matheson on, 241.
- Tuberculosis, Dr. Little on, 457.
- Tuckey, Dr. C. Lloyd, treatment by hypnotism and suggestion, *Rev.*, 362.
- Tumour, intra-thoracic, Dr. Travers Smith on, 219.
- Tunstall, Dr. A. C., "first aid" to the injured and sick, an advanced ambulance handbook, *Rev.*, 211.
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- Tweedy, Dr. E. H., ovum from horn of bicornuate uterus, 379.
- Twin abortion with double placenta prævia and a remarkable condition of the cervix uteri, Professor R. J. Kinkead on, 381.
- Ulceration of tracheotomy tube into aorta, Professor White on, 67.
- Uterine carcinoma, Sir A. V. Macan on, 58.
- Uterus, sarcoma of the, Sir William Smiley on, 59.
- Vagino-peritoneal operations, technique of, by E. Wertheim and Th. Nicholitsch, *Rev.*, 118.
- Vesicular mole, Dr. Spencer Sheill on, 380.
- Villous tumour of the bladder, Dr. Boxwell on, 64.
- Wales, Dr. Ernest de Wolfe, principles and practice of modern otology, *Rev.*, 278.
- Walker, Chas. Edward, essentials of cytology, *Rev.*, 353.
- Warwick, Dr. B. A., first aid to the injured and sick, an advanced ambulance handbook, *Rev.*, 211.
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- Wells, Dr. J. W., influence of cod liver oil upon the nutrition of tuberculous pigs, *Rev.*, 126.
- Wertheim, E., technique of vagino-peritoneal operations, *Rev.*, 118.
- Wheeler, Mr. W. I. de C., Talma-Morison operation for hepatic cirrhosis, 131.
- Whitaker, Joseph, Almanack for the Year of our Lord 1908, *Rev.*, 107.
- Whitaker's Peerage, Baronetage, Knightage and Companionship for the year 1908, *Rev.*, 108.
- Whitaker Holiday, 108.
- White, Professor—laryngeal specimens, 67; cases of hanging, suffocation, ulceration of tracheotomy tube into aorta, 67.
- Whitfield, Dr. A., handbook of skin diseases and their treatment, *Rev.*, 122.
- Whitla, Sir William, a manual of the practice and theory of medicine, *Rev.*, 347.
- Who's Who, 1908, *Rev.*, 43.
- Williams, J. Whitridge, obstetrics, *Rev.*, 284.
- Wilmot, Dr. Thomas James, ocular manifestations of syphilis, 339.
- Wilson, Dr. W. R., obstetric nursing, *Rev.*, 356.
- Wilson, Dr. Thomas, pelvic inflammation in the female, *Rev.*, 356.
- Worth toffee, 80.
- Wynne, Dr. Albert E., manifestations of congenital syphilis in the nervous system, 191.
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EDITED BY

Sir JOHN MOORE, M.A., M.D., *Dubl.*; D.Sc., *Oxon.*; F.R.C.P.I.

AND

T. GILLMAN MOORHEAD, B.A., M.D., *Dubl.*; F.R.C.P.I.

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JANUARY,

1908.

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